Ernest Gordon

Temperance Teaching in Europe

HV5125
.G66

LIBRARY OF PRINCETON
OCT 2 1956
THEOLOGICAL SEMINARY
HV5125
.G66

LIBRARY OF PRINCETON
MAY 7 1956
THEOLOGICAL SEMINARY

TEMPERANCE TEACHING IN EUROPE

by

ERNEST GORDON

(Author of *Alcohol Reaction at Yale, Antialcohol Supplements, Wet Science Invades the Schools,* etc.)

ERNEST GORDON, PUBLISHER
1730 Chicago Avenue
Evanston, Illinois

LIBRARY OF PRINCETON
MAY 22 1956
THEOLOGICAL SEMINARY

HV5125
.G66

LIBRARY OF PRINCETON
MAY 7 1956
THEOLOGICAL SEMINARY

TEMPERANCE TEACHING IN EUROPE

by

ERNEST GORDON

1954
Not copyrighted
Reproduction of parts permitted

PRINTED IN THE UNITED STATES OF AMERICA

NOTE

A determined effort is being put forth to alter the school temperance teaching now prescribed in all the States of the Union. The present teaching is stigmatised as "unscientific and emotional." That it needs improvement is no doubt true but its general orientation is much closer to current, authoritative physiology than the proposed substitutes are.

This is clear from an examination of antialcohol instruction in Continental Europe. One is both surprised and gratified at its radical and realist character. Illustrations drawn from textbooks, from collateral literature and from pedagogical journals are found in the following pages. This corpus of teaching has the endorsement of competent, and in many cases, of notable scientists. It sets a high standard for our own schools and calls for advance, not retreat.

CONTENTS

I. The Austrian School-Week 1

II. The French National Committee for Defense Against Alcoholism Moves into Action . . . 11

III. November Anti-Alcohol Day in Belgium . . . 20

IV. Temperance Education in Switzerland 27

V. In the Schools of Geneva 37

VI. Two German Textbooks 40

VII. Notes on Danish School Instruction 47

VIII. Temperance Teaching in Sweden 50

IX. The Teaching in Norway 56

X. Finland's Schools for Alcohol Abstinence . . 62

I

THE AUSTRIAN SCHOOL-WEEK

Antialcohol education in Austria centers around a yearly antialcohol week in all the schools of the nation from the borders of Hungary to Lake Constance. This has been observed for a generation and probably owes much to the influence of the earlier great medical leaders in the University of Vienna—Prof. Dr. Anton Weichselbaum and Prof. Dr. Max Kassowitz. Austrian temperance men look for the time when it will be observed simultaneously in other lands and ultimately throughout the world as an international institution.

This "School-Week" is sponsored by the National Ministry of Education, as appears from the following statement of the government:

"The Austrian School-Week for Alcohol-free Instruction of Youth
Decree of the National Ministry of Education
April, 1951

"To all the School Councils of the Nation, including the Municipal School Council of Vienna;

"And to the Directors of National Educational Institutions, as well as of Central Normal Colleges for Trades and Women's Household Occupations.

"As in years past, so today, an Austrian School Week for Alcohol-free Education of Youth is instituted. The time from the 24th to the 29th of September is to be assigned to it. In this period educational work will be given over to the fight against drink. Pedagogically selected reports from the daily press and occurrences in the world about us will give opportunity for discussion of the injuries which the use of alcohol causes. Both in practical work and natural science subjects and in arithmetic, writing and drawing, one can bring clearly to the attention of pupils the devastation which alcoholism causes both to the individual and to society. The significance for our land of the preparation of unfermented fruit-juices should be given special attention on the ground of their food value, the additional side-income they bring to our agriculture and the support they offer to the temperance movement.

"For the Middle Schools, suitable objects for teaching should be assembled and the existing teaching corps entrusted with carrying out the program.

"The moral and social background for the fight against alcohol ought to be brought to the fore. Our aim is inner emancipation from the pressure of drinking customs and defense against narcotic habit.

"In this connection, attention is called to the *Quarterly for Alcohol-Free Education of Youth* and to the aids which the Union for Alcohol-Free Education issues for the assistance of teachers. These can be ordered from the Directorate of the University of Vienna, XIII, Amalienstrasse 33.

"It is the task of the School Directorate to see to the execution and support of this order and to retain details for reports on it.

Vienna, July 10, 1951

National Minister of Education,
Hurdes."

Notice that the moral aspect of the subject is to be emphasised but, as we shall see later, this is not to the detriment or diminution of scientific teaching. Another document, which we can conveniently insert here, puts the Ministry of Education fairly on the side of total abstinence, ordering, as it does, all school gatherings to be wholly free from alcoholic drink. It was No. 29,290. Dec. 29, 1950, issued to all the School Councils of the Nation and ran as follows:

"As is known, the Order of June 19, 1949, No. 13,390, regarding the prohibition of the use of alcoholic drinks in school-picnics, festivals, and other school affairs, has largely been neglected. Especially in ski courses, the starting points of which are often near restaurants, have the requirements of this decree been forgotten. In various cases restaurant-keepers have even offered free drinks. Therefore the National School Council, led by the Municipal School Council of Vienna, requests earnestly that attention be paid to the regulations for Middle Schools. It points to the above-cited announcement asking that care be taken in school affairs of all kinds, especially at school festivals, school excursions, hiking and ski expeditions, that no alcoholic drink be served. That in boarding-schools the house-keeping must be alcohol-free is understood as a matter of course. The teaching corps of all grades should take it to heart on these occasions to give an example by their own abstinence from the use of alcoholic drink and from tobacco, and also to exert their whole influence to the end that all adult persons, taking part in such affairs, abstain from these things."

For completeness we may add a third official document, also from the Ministry of Education. The Union for Alcohol-Free

Education is the organisation of Austrian abstinent school-teachers. It has persistently expressed in influential circles its dissatisfaction at the way in which drink customs are glorified over the radio and in which alcohol has been given the right to speak to the public. It has appealed for relief and has received this answer.

"The National Ministry of Education acknowledges the receipt of the letter of June 9, 1951, and has taken interested notice of its contents. As far as existing communications over the radio are concerned, it is unquestionably right that propaganda for alcohol over the air is undesirable on the grounds expressed. Steps will be taken in a suitable way to bring influence on the radio to restrain excesses in this field.
Vienna, Nov. 17, 1950 For the National Ministry
Bruck."

. . . . .

School Week for 1951 was chosen earlier than usual in order to coincide with the annual Youth Red Cross weekly period, which this year was devoted to "correct nutrition." "This will enable teachers," announced the Minister of Education, "ever more impressively to urge pupils to value fruit and to choose fruit-juice instead of alcoholic drink. May this year's School-Week contribute to the bringing in of the time when young people will feel that, in declining alcoholic drink, they are doing the natural and obvious thing." The Week was Sept. 24–29. In the Auditorium of the Pedagogic Institute, Vienna, September 20, Dr. Anton Rot spoke on, "What the Physician Recommends for the School Week." In Sender, Alpenland, Sept. 22, Prof. Dr. Ilse Wimmerer addressed parents and teachers, also on the occasion of the beginning of the School-Week. From an address by Dr. Elsa Petrziczek in the Abstinent Teachers' organ, we get a good idea of the scientific orientation of the Week. This woman physician said,

"That alcohol is a poison and indeed a very active one, is not in doubt. No substance which is not poisonous could cause the intoxication which follows a first drink. It has the same effect that ether and other narcotic drugs have on us, liberating the inhibitions, causing purposeless movements and paralysis of the skin surface-vessels, with loss of warmth in the body, lowering power of judgment, lengthening reaction time, disturbing the sense of balance.

"It also acts on the organism when one drinks only 'moderately' to

use the apologetic word. Poison action is indeed not so great but it is still there. Poisons remain poisons and the minimum of alcohol that our organism can get by without harm, is not that of any of our ordinary alcoholic drinks.

"Narcotics are deceptive. One forgets for the time being the troubled present. This probably contributes to craving for the forgetfulness-bringing agent. One becomes *suechtig,* an habitué, and cannot release oneself from this poison. No one knows in advance whether or not he will become its serf.

"Continual toxic action follows habitual drinking. All organs coming in direct contact with wine, beer, etc., as the stomach and digestive tract, finally exhibit injurious alterations: the heart, too, both from the poisons and the enormously increased passage of liquids. The kidneys get their share of damage. Enlargements, inflammations, shrivellings, pathological deposits of fat, are the most striking consequences on all these organs. The drinker is much more susceptible to all infectious diseases and every sickness needs longer time for cure.

"That chronic alcoholism leads to severe insanities is known to all. What is more important is the fact that the man who drinks regularly is the victim of psychical alterations; also becomes, in one way or another, lower morally. And this is one of the most fearful consequences.

"In closing, may I say a few words regarding the ever-recurring assertion that physicians prescribe alcohol as a medicine? They do this now much less. They also prescribe other poisons. But what reasonable man would think to continue, when well again, to take medicine which had done him good, especially poisonous ones? None indeed! Only wine do people continue to drink because one had an aunt to whom it was prescribed by a physician years ago. This is logic which could only emerge from the brain of an alcoholic."

This statement was made under the eaves of the University of Vienna, perhaps premier medical school in the world, and we may be sure it represents its unquestionable opinion. Dr. Petrziczek was giving *official information for state-appointed instruction.*

During "the Week" the subject is brought into all classes,—history, arithmetic, language-study, nature-study, drawing, gymnastics and handwork. Prof. Elizabeth Hornischer, expert in pedagogy, has published a handbook full of suggestions for each course, with appropriate references to literature and best methods of instruction. She urges teachers to continue to strengthen through the year the impulses which "the concentration week" awakens.

Thus in one pamphlet, statistical material is given to be used

in arithmetical problems. This provides all sorts of antialcohol starting points. For example,—Vienna police statistics and statistics of road accidents. The number of chauffeur licenses withdrawn in 1941 was 94,951, of which more than half were because of intoxication of driver. Vienna's expenditure for home construction was but 62 million as against 910 million for alcohol and tobacco. One could have built 72,000 homes with that money. Much of this computation has to do with fruit, its sugar content, "immeasurably great," which goes to waste in wine; with acreage used in raw materials for breweries and the loss to the national economy involved.

The little ones receive appropriate attention as, for example, in a collection of "Songs for the School Week for Alcohol-Free Youth Education." This is published by the Vienna Section and is folk-music with verse by J. M. Soling, Uhland, Fr. Foerster. It is all in good taste as befits this capital city of good taste and at times has a mocking note as,

> What changes his song to an animal growl
> Till the singer oft crawls on all fours?
> What makes the Philistine his bowed back to bend
> And keeps Brother Student so dumb?
> The poison in beer and in wine.

At the bottom of each page is a sentiment such as,

> The grape is a noble gift of God.
> Wine is but man's concoction.

For little beginners, an A.B.C. book, made "By Youth, for Youth," has been issued. Each alphabet letter is presented in an original drawing with an original couplet in rhyme, praising fruit and the natural way of life, with occasional allusion to wine barbarism. Each is signed by the draftsman-poet, student in the High School on Anhofstrasse, Vienna. Certainly an original and clever feat!

A leaflet of two pages is covered with anti-alcohol proverbs which easily nest in the child mind. In the original German they are racy and full of sap. A bald translation is far from carrying what the original does of effectiveness. Thus,

"Only a little glass." Stop! Hark!
Fire begins with but a spark.

Friendship which fool wine doth excite
Lasts, as the spree, but for the night.

The drinker was once young and elate
By unlucky chance he became 'moderate.'

(*Auch der Trinker war einmal jung und fein*
Zum Unglueck wollte er maessig sein.)

(Prof. v. Bunge's saying is quoted in this Austrian literature, "If there were only alcoholics and abstainers, there would soon be no alcohol question.")

Again; "Alcohol drives sense from heads, money from pockets, health from body and elbow through coat-sleeves."

Among the various postcards issued by the abstinent teachers is an international picture of alcoholic "euphoria" two hours afterward. In the English classes during the "Week" they even sing "The Drunkard's Doom" from Carl Sandburg's *American Songbook.*

Happy Life (*Vom Frohen Leben*), a book of selections dated 1950, is used as a school reader. There are those who want no allusions to the suffering of drunkards and their families. "No emotion," is the prudish line taken by this pedagogy. The child-enlistment plans of brewer and distiller forbid it.

In this book, however, enough and plenty,—as in Maupassant's *The Drunkard* and in Adelheid Popp's *Children's Sorrows.* Also burning irony in the Austrian lyricist, Arno Holz' *Wine that Maketh Glad the Heart of Man,* in Schoenajach-Carolath's *On Booze,* and in A. v. Chamisso's *Moderation,* which might well be, with its refrain, *Mass! Mass! Noch ein Glas, So noch ein Glas,* the Commencement Hymn of the New Approach School of Alcohol Studies.

Abraham à Santa Clara was an old Austrian monk-poet of baroque times. He has this to say of the mighty Austrian river,

"The Danube has its source at Donauschingen, in the beginning a little crystal brooklet in which children play. At Ulm it is already navigable. Then, as a great river, it flows through Swabia, Bavaria, Austria, Hungary. It drinks up other rivers, the Lech,

the Isar, the Inn, the Traun, the Enna, the Drau. When finally it has drunk enough, it becomes in Hungary the great river Savus, which Latin word in German means 'the Sow.'

"As the Danube, so those who drink wine. First they drink a glass for pleasure, then a glass for another's health. Wetness and flood grow until sense is lost and the drinker becomes a fool.

"After which he drinks more, never enough, as the Danube, until finally the sow in his nature emerges and he becomes altogether a fool-sow."

So the beautiful blue Danube has for Viennese little people quite another lesson, as they gaze on it, than that which the champagne waltzes of Johan Strauss offer.

A little girl in the Simmering Real Gymnasium (*aet.* 13) wrote a characteristic essay for "the School-Week" which is touched both with "emotion" and moral indignation. We can well close with it. The title is,

Unhappy Tavern Patrons

"In the tavern it was oppressively hot and thick clouds of cigaret smoke hung over the tables. Many men with red, swollen faces, or with sunken cheeks, eyes glassy and hair dishevelled, lounged about. They drank and growled, played cards and quarreled. Others stared stupidly into their beer glasses and some slept, head on arm. Behind the bar, grinning, stood Mr. Alcohol and chuckled over his flourishing business.

"It struck twelve. The door opened. An icy gust of wind drove into the bar-room and tore a hole in the smoke. All eyes looked expectantly toward the door. Loud cries ceased. Full of business, bar-keep Alcohol stood up to serve his new guests.

"But what strange forms they were! Leading, came a dried-up man with bony face, robed in a black cloak, a scythe over his shoulder. Behind him a woman stepped into the room. She was in rags and carried a begging-sack on her back. The last, a man in prison garb and with chains, dragged himself in. Mr. Alcohol drew back. These were his allies—Death, Poverty, and Crime. They stepped up to greet him. "Where are the victims you promised us?" cried out Death. The drinkers looked at each other.

" 'Hush! Hush! Not so loud,' whispered Alcohol to Death, 'you'll spoil the whole business. Quick, into the kitchen.' And therewith he pushed his friends out of the barroom.

"The guests were now alone again. Each looked at the other questioningly. Finally one whispered with a hoarse voice, 'That was the Man with the Scythe.' 'And that was Poverty,' whispered another. 'The last figure, if I am right, was Crime,' replied a third, half aloud, and glanced

aside at the door, whence the three had vanished. 'They have seen us. I better get out of the place. Dust (otherwise Death) will get me as he has taken Loisi (Alois) who but yesterday boozed merrily among us.'

" 'As for me, I once owned a large farm but today can hardly give my children a bit of bread. Alcohol has betrayed me, has given me over to poverty.'

" 'And I was planning to break into the Mayor's house this very night but when I think of handcuffs and prison garb, my courage fails.'

"So spake the drinkers to each other and one after another slipped quietly and perturbed out of the tavern."

. . . . .

" 'Why did you not go in by the backdoor as we agreed?' shouted Alcohol angrily at his friends in the kitchen. 'Now my patrons have seen you.'

" 'All right,' cried Death quickly, 'back to them,' taking his scythe on his shoulder and tearing the door open. But the guests were gone; the saloon was empty. Only the saloon-keeper's black cat on the bench near the stove curved its spine. Alcohol's three friends were obliged to leave disappointed and without their prey.

"No guests visited the tavern again. Spiders' webs were soon spun over kegs and bottles. Alcohol fell into debt and could not pay his taxes. The Collector came. He was bankrupt and in disgrace had to leave the city."

Note

[1]*Alcohol-Free Youth Education,* No. 1, 1952, reviews Hans Steinbach's *Lehrbuch d.Naturgeschichte* (for high schools of Austria). This is a textbook of the geology, fauna, and flora of Austria, and has much on the physiology and hygiene of man.

At the close of his account of the anatomy of the nervous system, he says, "Avoid alcohol and nicotine. Much misconduct and crime occur in drunkenness. Many accidents, especially in street traffic, are to be traced to slightly intoxicated men. How much psychic misery is due to alcohol, how much family happiness has it destroyed. Of what nameless misery and premature death has it been the root cause."

This is the fourth edition of this great work. "It is wholly written from our point of view," says the organ of the Abstinent Teachers.

[2]Dr.med. Franz Orthner is the head physician of the famous Austrian health resort, Bad Ischl. He has himself published *A Little Health Book for Children in Primary and High Schools,* which gives school children elementary advice about the importance of cleanliness as a means of keeping well. It is only fifteen pages in length and one of the three little sections is devoted to,

The Dangers to Health from Alcohol

"Children should not take the least drop of alcoholic drink. That beer makes men fat is not a sign that it is a food, as one often hears.

Alcoholic drink causes a sickly fattening of liver, kidneys, and especially of the heart muscle.

"The fat drinker is blue in the face from the least effort, even when he stoops, because the fat-encased heart is no longer in condition to drive the blood quickly through the lungs. Hence come blood stoppages in the organs, easily resulting in inflammations.

"Children who take alcoholic drinks are often mentally backward and learn with difficulty. Children of drinkers are often from birth of little value, inherit an inclination to drink, and are a burden on people and on the state."

[3]*Unser Weg* (Our Way) is an Austrian pedagogical review. In its Sept. 1951 issue, the Director of the Normal School for Women Teachers in Graz, Prof. Alois Heinzel, who is also Judge of the Juvenile Court, is quoted as follows,

"Almost all the fathers of these young (criminals) were drinkers. Most of the young folk who had diverged from right ways, *came from wine regions. Never has it been so clear to me as in the court-room of the juvenile court, how the devil of alcohol corrupts generations of mankind.*

"Yet people actually ridicule the self-sacrificing activity of the Union for Alcohol-Free Education of Youth in Austria, even some of the teaching corps, who do not *wish* to know with what hideous dangers alcoholism threatens youth."

[4]One hears in certain quarters in America that temperance teaching should not be "emotional." That is not the attitude of Austrian educational authorities. Thus a high official, Ministerial Councillor Dr. Maximilian Fuehring, writes:

"In the decree of the Ministry of Education regarding the Austrian School Week for Alcohol-free Youth Education, it is emphasised that special weight be given to the educational aim of making young people strong and free. The work of the teacher should not stop at imparting knowledge but *must seek to press into the spheres of emotion and will.*

"The teacher should collect in his portfolios all he can find and use it in preparation for instruction in the School Week *and throughout the year on suitable occasions,* but he must not stop short at that.

"*There must be not only impartation of information but such an influence on the will as to create a permanent attitude. We must set all powers to work to influence fancy and feeling, compassion, sense of honor and love of freedom.*

"Likewise social considerations in the fight against alcohol must be based not only on scientific statistics, diagrams and columns of figures. More effective is it to stir with concrete pictures, *emotions of astonishment, horror and repulsion,* as for example by the immense economic waste which drink causes to state and household and individual. *The feelings of sympathy must not be neglected.*

"A determined will can be formed only when knowledge and feeling move in the same direction to the same goal."

(Summarised from *Die Alkoholfreie Jugend Erziehung,* H.4, 1952.)

[5]*Die Alkoholfreie Jugend—Erziehung,* Heft 2. 1953, publishes the following Wall Chart:

Have you ever heard,

. . . that a man lost his job because he drank too little?

. . . that a doctor said to his patient, "Your chances would be better if you were a drinker"?

. . . that an employer, in search after a man for a responsible position said, "Send me a drinker"?

. . . that a wife said, "My husband would be the best man in the world, if he would only drink"?

. . . that a convict sought discharge with the explanation, "If I had only been drunk I would never have done this"?

. . . that an insurance company had offered premium reductions to alcoholics?

II

THE FRENCH NATIONAL COMMITTEE FOR DEFENSE AGAINST ALCOHOLISM MOVES INTO ACTION

This Committee is comparable to the National Committee for Defense Against Tuberculosis. In close association with it, is the Medical Group for Anti-Alcohol Studies. This combination gives the assurance of a very important movement for alcohol enlightenment in general and preeminently through school instruction. How powerful its membership is appears from the following lists:

National Committee of Defense Against Alcoholism
Committee of Patrons

The Minister of Public Health
The Minister of Population
The Minister of Labor and Social Security
The Minister of Public Education
The Minister of Agriculture
The Minister of Justice
The Minister of National Defense
The Minister of France Across the Seas
The Minister of Reconstruction and Urbanism
The Minister of Post, Telegraph, and Telephone
The President of the Academy of Medicine
The President of the Patronat Française
The President of the French Confederation of Christian Labor Unions
The President of the General Confederation of Agriculture

Committee of Honor

M. HERRIOT, President of the National Assembly and Member of the French Academy
Professor CARNOT, Member of the Academy of Medicine
Admiral LACAZE, Former Minister of Marine, Member of the French Academy
Dr. Jules RENAULT, Member of the Academy of Medicine
Dr. BROUARDEL, President of the French Red Cross, Member Academy of Medicine
Maître Maurice GARCON, Member of the French Academy
M. Justin GODART, Former Minister of Public Health

Scientific and Technical Committee

Dr. RIST, Member and Former President of the Academy of Medicine
Professors DEBRE, DELAY, Guy LAROCHE, GUILLIARD, of the Faculty of Medicine, Paris
Professor DÉROBERT, *Emeritus* of the Paris Medical Faculty
Dr. PARISOT, Dean of the Medical Faculty, Nancy
Dr. DELORE, Professor in the Faculty of Medicine, Lyon
Dr. PERRIN, Professor at the Medical School, Nantes
Prof. BUGNARD, Director of the National Institute of Hygiene
M. SAUVY, Director of the National Institute of Demography
MM. FERRACCI and MASSABUAU, of the Ministry of Finance
MM. RAIN and AUJAIEU, of the Ministry of Health
M. DAUTRY, of the Ministry of Agriculture

Administrative Council

President, Dr. ROUVILLOIS, Member and Former President of the Academy of Medicine, Medical Inspector General of the French Government
Vice Presidents, MM. BEAUCHAMPS, President of Family Health; Dr. PAUL PERRIN, Secretary General of the Medical Group of Antialcohol Studies
Secretary General, M. André MIGNOT
General Delegate for Propaganda, M. André MONNIER, Côntroleur d'Etat
Legal Consultant, Maître Maurice GARCON, Member of the French Academy

Follows the membership of the Medical Group for Antialcohol Studies:

Members of the Institute

Dr. Georges DUHAMEL, Professor Léon BINET, Prof. JOLLY, Prof. LAPICQUE, Prof. LEPINE, Prof. Charles LAUBRY, Prof. BOUSSY, Prof. Hyacinthe VINCENT.

Members of the Academy of Medicine

Deans of Medical Faculties, CALVERT (Toulouse), COMBEMALE (Lille), CORRIL (Marseille), Corresponding Member of the Acad. Med., DUPERIN (Bordeaux), FORSTER (Strassbourg), GIRAUD (Montpellier), Corresponding Member Acad. Med., HERMANN (Lyon), Corresponding Member Acad. Med., LAFFONT (Lille) Acad. Cath., MERKLEN (Nancy).
Directors of Medical Schools, AUVIGNE (Nantes), Corresponding Member Acad. Med., GUILLAUME-LOUIS (Tours), Corresponding Member Acad. Med., MARQUIS (Rennes), Corresponding Member Acad. Med., MERLE (Clermont Ferrand).
Medical Professors and Physicians, ARMAND-DELILLE (Paris), Member Acad. Med., BAUDOIN (Paris), Hon. Dean of Faculty of Paris, Member Acad. Med., BERNARD Etienne (Paris), Professor on Faculty

of Medicine, BROUARDEL (Paris), Member of Acad. Med., CARNOT (Paris), Professor, Member Acad. Med., DEBRÉ (Paris), Professor, Member Acad. Med., BRUEL, St. Germain-en-Laye, DEIMAS-MARSALET (Bordeaux), Professor, DELORE (Lyon), Professor, DERVILLE (Bordeaux), Professor, DESBOUQUOIS (Tours), Professor, DEVE (Rouen), Prof. *emeritus,* Associate Member Acad. Med., DUVOIR (Paris), Professor, FABRE (Paris), Professor, Member Acad. Med., HEUYER (Paris), Physician of Hospitals, LAIGNAL-LAVASTINE (Paris), Professor, Member Acad. Med., Guy LAROCHE (Paris), Professor, LEBRETON, Mlle Elaine, Head of the Laboratory of the Sorbonne, LECOQ (St. Germain-en-Laye), LUCIEN (Nancy), Dean *emeritus* of Medical Faculty, MOURIQUAND (Lyon), Professor, Corresponding Member Acad. Med., NAYRAC (Lille), Professor, PARISOT (Nancy), Professor, Corresponding Member Acad. Med., PERRIN, Maurice (Nancy), Professor, Corresponding Member Acad. Med., PIECHAUD (Bordeaux), Professor, POROT (Algiers), Professor, QUENTIN (Rennes), Professor, ROCH (Geneva), Professor, Corresponding Member Acad. Med., ROGER (Marseilles), Professor, SCHAEFFER (Paris), Professor at the Sorbonne, Corresponding Member Acad. Med., SIMONIN (Strassburg), Professor, SICARD de PLAUZOLES (Paris), Director of the Institut Alfred Fournier, VANVERTS (Lille), Prof. *emeritus,* Corresponding Member Acad. Med.

The National Committee has already engaged in preliminary reconnaissance in the schools. In the January number of its organ, *Alcool ou Santé* (Alcohol or Health), it describes recent representations to the Ministry of Education.

"We have applied to the Minister of National Education with the aim in view of reaching all the youth in French schools through the teaching corps.

"We have received the most valuable encouragement and advice from the General-Directors of various departments of teaching.

"The Minister has decided to send an official communication to the entire teaching body and, with this in view, has inserted a reference to our Committee in the Official Bulletin of Education.[1]

[1]The circular of the Minister of National Education of April 21, '51, addressed to all heads of schools:

"During the sombre war years of 1940–44, restrictions imposed on the consumption of alcoholic drink and the diminution of their production had, as a happy consequence, a very clear amelioration of public health. Disease and crime due to alcohol were considerably reduced.

"After the Liberation, the consumption of alcohol has increased largely and we are witness to a recrudescence of evils we thought were gone for good. Hospital statistics have witnessed to it. More than ninety

percent of child murderers are alcoholics. Factory and road accidents have multiplied. The costs of Social Security are heavier and heavier. One must remember, too, the economic importance of lost working time, which in 1948 had risen to 6,395,225 work days.

"It is to check this scourge, which threatens the very life of the nation, that a National Committee of Defense Against Alcoholism has been formed. As the Committee of Defense Against Tuberculosis, it plans to undertake an intense propaganda, assured as it is of the cooperation of all the country's forces. To make certain a real regression of alcoholism in the future, it considers the most efficient agency to be the instruction of the generation which is preparing for life in the schools.

"I have the honor to demand of all members of the teaching corps to put their authority and habitual devotion at the disposition of this work. They well know its importance. Numbers of them already give anti-alcohol teaching. I ask that all receive the representatives which the Committee of Defense Against Alcoholism may send to them, and to study with them the forms of action most suited to convince young people of the dangers alcoholism brings to the race and the country."

Signed. P. O. Lapie
Minister of National Education

"We have contacted the Rectors of Different Academies and, with their permission, have addressed our tracts to the Deans of Faculties, all Academy Inspectors, all Primary Inspectors, all Inspectors of Technical Training.

"At the opening of the school year, we corresponded with the Directors of Establishments, Head Masters, and Principals of Colleges, to interest them in our plans and through them to reach teachers of second degree who, we hope, will interest all pupils in the fight against drink.

"As to teaching in primary schools, we cannot think of immediate contact with all teachers. They are indeed already aware of our action through the Official Bulletin. But we plan to bring to their attention various projects through the Secretary-General of the French League of Teachers, which are well calculated to interest them in our activities.

"Finally, the Director of Free Teaching (that is, of the parochial schools of France) has furnished us with a list of directors authorised to deal with us in an antialcohol campaign. We shall thus, before school opens in October, be able to reach all teachers and all youth in the Free Schools."[1]

[1]A plan which they hope to see generalised and which is now in operation in Nantes under the leadership of Prof. Allain, is the *Quinzaine de l'Alcoolisme*, "An Antialcohol Fortnight."

In other words, we have here a comprehensive plan on the part of the leading medical men of France to infiltrate the entire teaching corps and the body of studying youth with scientific anti-alcohol instruction. Of the character of that teaching there can be no question. It is uncompromisingly hostile to drink in all its forms, including wine, perhaps particularly hostile to wine.

This comes out in the highly technical *Les Études Antialcooliques,* which is the organ of the physicians. Also in *Alcool ou Santé,* scientific too, but rather aimed at providing material to teachers for use in school rooms. This appeals to emotions of indignation as well as to reason. These great figures in French medical life, led by Dr. Rouvillois who heads the entire profession as *Médécin-Général-Inspecteur,* and Dr. Oudard, head of the French Navy's Medical Service, have not thought it beneath their dignity to set up a writing-contest for young people in the public schools and to print in their organ the essay of the prize-winner, Mlle. Yvonne Herve, *aet.* 14. It is as follows:

"The disastrous action of alcohol is due chiefly to two causes, ignorance and lack of will. If the alcoholic knew in advance the effects of alcohol on himself and could see what would become of his different organs, he would never become an alcoholic.

"His digestive apparatus affected, his stomach ulcerated, his liver sick, dried and hardened, his arteries stiff and brittle, his overworked kidneys disordered,—all would frighten him. His nervous system is even worse disturbed. The drunkard trembles, is upset, and even taken with convulsions. His character changes. He becomes morose, ugly, at times idiotic.

"Not only does he injure himself but his family also. If he knew in advance that he would become capable of abusing his wife and children, whom he really loves, of giving them a bad example and even at times endangering their lives,—he would never start drinking.

The first week the pupils, without being influenced by any previous exposure, fill out questionnaires to throw light on their point of view.

At the end of the first week, the replies are collected and a trained lecturer summarises them, corrects important errors, and lays out the larger lines of the subject. During the second week, the professor gives supplementary details on certain points.

At the close of the course, each group of pupils turns in a report on the most salient facts. This active participation of pupils seems to us likely to give a maximum of results. p. 263 Perrin's *L'Alcoolisme.*

"If he could see himself in drink, dirty and torn, muttering idiotic and wicked words; if he could see his wife hurry her children into a bed-room so that they might not have before their eyes the painful picture of a drunken father,— he would never drink.

"If he knew that he would lose taste for work and ability to support his family,—he would never drink,—never.

"Lack of will is another cause of alcohol's disastrous effects. Actually alcohol enfeebles the intelligence and will; it is a dangerous poison because the alcoholic does not at first realise the injuries it brings. He begins by taking a little glass of wine. "It's good; life is fine."

"On the morrow he takes another and continues on days following. His will diminishes as the number of glasses increase. Even though at times he says, 'I'm going to stop,' his stomach is still there with its cravings.

"At other times, the alcoholic lets himself be led away. He finds drinking pals in the tavern. They propose drinks. The temptation is too great and then, in turn, he sets up the drinks. There he stays, wastes his week's pay while his wife is in misery and his children hungry.

"Finally he can no longer abandon his terrible urge to drink, though knowing the consequences.

"Let us strive with all our powers against alcoholism. We can do no greater service to humanity."

II

Literature for the schools will soon be forth-coming from the National Committee. What its character will be is obvious from a text-book which has been for some years used in the schools of France and which was in 1950 in its tenth edition. Written by Drs. Oria and Raffin, it is a consummate handbook, entitled, *Anatomie, Physiologie, Hygiene.*

As a summary of these subjects with additional surveys of collateral material,—contagious diseases, microbiology, serums, diet, puericulture, *and alcoholism,* it is nigh perfect.

France is the most highly alcoholised land on earth. One is then surprised at the severity of the judgments here passed on alcoholic drink. Or should one be? French medicine is at last awake to the immensity of the menace.

By way of illustration we can make extracts from this handbook. On page 227 is a table on

The Toxic Action of Alcohol

a. *On the Cell.* Coagulation of living substance; death of cell.
b. *On the Nervous System.* Motor troubles—tremblings, epilepsy, paralysis. Sense troubles—alterations of organs of sense, hallucinations, etc. Troubles of the intellectual faculties—enfeeblement of the will and the intelligence, insanity, delirium tremens, moral decline.
c. *On the Digestive Apparatus.* Irritation of the entire digestive tube, gastritic ulcers of the stomach, enteritis, atrophy of the gastric and intestinal glands.
d. *On the Circulatory Apparatus.* Fatty degeneration of the heart, arteriosclerosis, aneurisms, overwork of heart.
e. *On the Blood.* Formation of clots, embolism, enfeeblement of the white corpuscles, less resistance to sicknesses such as tuberculosis.
f. *On the Respiratory Apparatus.* Weakening of the lungs, pulmonary congestion, bronchitis, pneumonia, pulmonary gangrene, tuberculosis.
g. *On Animal Warmth.* Loss of heat by paralysis of the constricting nerves of the surface blood vessels.
h. *Excretory Apparatus.* Cirrhosis of liver, fatty degeneracy, alteration of the kidneys, urema.

Then follows this paragraph on the descendance of alcoholics:

"Children of alcoholics are often attainted with profound degeneracies, deformations, reduced height, brain without will, an urge to drink, exaggerated moral and psychical sensibilities, convulsions, epilepsies, nervous disorders, idiocy, tendency to insanity, to suicide and crime."

Next some statistics:

a. *Tuberculosis.* In a Paris hospital, of 1,030 tuberculous, 443 were alcoholic wrecks.
b. *Insanity.* The rationing of wine during the war lowered considerably the internments for insanity—from 3,500 in 1939 to 800 in 1942. Now alcohol has returned and the asylums are full again. Alcoholism is the end of the race.

"Chronic alcoholism," continues this textbook, "is an intoxication generalised in all the organs as a consequence of even moderate use, when continued. An alcoholic may never be drunk. He suffers from motor troubles. Farewell, consequently, to all trades which demand sureness of hands as watchmaking, mechanical precision work, surgery.

"The drinker suffers from cramps with convulsive movements, which pass over into epilepsy. Also from sensation troubles, crawlings, prickings, burning sensations. Finally from sharp pains.

"In an alcoholic, an acute sickness, as pneumonia, can release a crisis of delirium tremens. This can continue many days and result in death. The alcoholic is irritable, angered by the least opposition. In sleep he is haunted by frightful nightmares.

"Alcoholic nervous disorders are responsible for half of railroad accidents, a fourth of suicides, and largely for criminality in general."

Our authors then introduce a quotation from Dr. Dauphin's "Unrecognised Alcoholism":

"Alcohol in very slight doses has pernicious effects upon the nervous system. These effects are often unperceived; nevertheless they are not less harmful, affecting power of movement, sensation, and the intellectual faculties. Thus,

"a. *Reflexes.* Normally the time between the stimulation of a periferal nerve and the release of the reflex is from 25 to 40 thousandth of a second. Amounts of alcohol from 30 to 40 cucm prolong reflex time a tenth and reduce the amplitude of the reaction from a third to half.

"b. *Control of hand.* A young surgeon in his first work is much annoyed by a slight trembling in operating. An extremely temperate man, this surgeon was accustomed to take at the end of the day a couple of inches of wine. This was not much alcohol but it sufficed to produce the trouble. He drank water and directly the trembling ceased.

"c. *Intellectual troubles.* A physician tested his capacity for adding numbers. His experiments were under the following conditions:

> Six first days, no alcohol;
> Seventh and eighth, 40 gr. brandy, greatly diluted.
> Ninth through twelfth day, 60 gr. brandy,
> Thirteenth and through eighteenth, 50 gr. brandy,
> Nineteenth through twenty-fourth, no alcohol,
> Twenty-fifth and twenty-sixth, 60 gr. alcohol.

There was improvement in adding the first six days, due to practise. This improvement remained stationary during the first days with alcohol. Then results became progressively worse. When no more alcohol was taken, improvement was shown which, however, was lost again on the two last days of resumption of drinking."

Conclusion,—in heavy leaded black type,

"*It is now demonstrated that, contrary to wide-spread belief,*

a non-inebriating dose of alcohol is always harmful, even when it is taken occasionally."

A French Temperance Story
entitled
The Costliest Door in the World

One day a man was seen going toward a saloon. In his hand was a wooden measuring stick with which he began to measure the saloon door. "Eighty five centimeters broad; two meters high."

Then in a loud voice he said to those who had gathered around in curiosity, "This door is two meters by 85 centimeters. That's not much. Yet I had a house and it passed through it. I had lands. They, too, have gone through it. I had fine furniture. It went through even without being taken apart. I had savings: they went the same way.

"But if that were only all! I had good health yet the doctor told me the other day, 'Your health has gone through the saloon door.'

"When a young man I had a good reputation, was trusted by all. Today no one has confidence in me. 'He's a drinker.' My self-respect has gone through this door.

"Formerly I had a kind heart. I could not have seen my wife and children weeping. Yet I have often seen them in tears since I passed through this door.

"In the old days I had a good head. I was a thinker and was proud of it. Yet how many times I have gone out of this saloon more stupid than a brute.

"I had a conscience, could distinguish between right and wrong. Am I doing right in wasting my money in this way, in poisoning my body, in poisoning my life, in giving a bad example to others? Certainly not. I have not listened to conscience and as a result my happiness passed out through this door. Often have I come through it singing, but really miserable.

"Ah well! Now I have had enough! Saloon door, farewell! I will never go through thee again! I renounce drinking forever!"

Having said these words, the man quietly left. The crowd cried out, "He's right! He's told the truth!"

But too ignorant, too weak, *too fearful of what the rest might say,* they entered one by one the same fatal door.

III

NOVEMBER ANTI-ALCOHOL DAY IN BELGIUM

The Royal Academy of Medicine, Brussels, has made this formal affirmation: "Alcohol, as a matter of fact, is a thing wholly alien to our normal alimentation. Its introduction into the organism can but excite serious disturbances. It checks the development of the human system in its growth. It is profoundly harmful to the child. It is highly desirable that it be banished from the diet of every human being before sixteen."

That this conclusion of the highest Belgian scientific authority may be made known (together with much else) to the school children of the nation, a special Antialcohol School Day is set apart each year in November. It is organised on the twentieth of the month by the National Society Against Alcoholism "under the High Patronage of the Ministry of Education." Radio broadcasts lead up to it,—on Nov. 9th, 1951, from Brussels, by the eminent psychiatrist, Prof. Dr. Auguste Ley; on the 17th and 20th by Mlle. G. Cocquyt, who described the significance of Antialcohol School Day. On the Hainault and Liège stations, Nov. 15 and 17, Mlle. Van Den Plas lectured on the same subject. On Nov. 3 the entire teaching body of the Belgian schools received an official circular reminding them of the coming Day. "All children are to be taught the dangers of alcoholism. This is the only efficacious way of driving back the evil."

Radio makes a valuable introduction for the moment but the earlier preparation is much more thorough-going. Every year *A Syllabus for Teachers* (L'Ami de Belgique), to be used on the *Journée scolaire antialcoolique,* is issued in a fresh edition.

It is excellent. As is fitting, the moral aspect is given the first emphasis. Across the double page is printed in large type,

A Moral Lesson for All the Schools

"Is alcohol our enemy?"

"No, not when used in an intelligent manner for technical purposes of all kinds.

"The real enemy is alcoholism, one of the most fearful and degrading vices. It lessens the delicacy of conscience in individuals, sense of duty, honest professional probity and personal dignity.

"Many who are never intoxicated but drink daily a little too much, injure their moral quality as well as their health and capacities. . . . Students are less successful. Their intelligence is dulled and their taste for work is gradually lessened.

"Alcohol disturbs family peace. Quarrels arise which are the germs of divorce. The children, under-nourished and poorly-cared-for, are inferior to others. The father's alcoholism is at times responsible for birth of defective or deformed children.

"Drinking people pretend that their habit is their own concern alone. That is a grave error. Other obligations, of family and society, in many forms, come first.

"When the drinking man is sick, he has a right to care; in poverty, to help; but he has no right to destroy himself, to reduce himself to poverty by drinking, or to injure others by his habit."

"Name some maladies due to alcoholism."

"Nervous affections, fluxions of the chest, tuberculosis, liver maladies, heart troubles."

"How does Mutuality (cooperative social security) cover its costs?"

"By means of assessments levied on temperate persons. They are taxed for the avoidable sicknesses of the alcoholic. Institutional costs—of prisons, hospitals, reform-schools, are borne by the sober. Drink injures business, makes workmen inferior, causes absenteeism, a veritable plague. When the employer is enslaved by drink, the whole enterprise deteriorates.

"Alcohol is a cause of denatality. Whole regions in France are dying out because of the plague.

"Application. During some weeks have pupils collect newspaper clippings which illustrate and fix in memory these ideas. Comment on them immediately."

The next section, *"Religious Lesson for Catholic Schools,"* is an admirable exposition of New Testament passages with a conclusion commending, "Total abstinence from beer, wine and all other alcoholic drink."

Follows Information on Alcohol and Traffic Accidents

Prof. Thomas of Ghent and Dr. de Somer of Louvain, both specialists in legal medicine, have established the fact that more than 50% of Belgian traffic accidents are imputable to drink. Some persons are so 'intolerant' (sensitive to alcohol) that a single glass of beer is dangerous in driving.

Belgium is a little country with 569,995 autos, 139,932 motor-

cycles, and 2,979,148 bicyclists. One is not surprised that, with 'free intoxication,' there should be a frightening increase in accidents, 1947, 31,473; 1948, 39,688; 1949, 46,901; 1950, 61,678.

Belgian athletes vote dry, at least those named here. Marcel Wandewattyne, champion cross country runner: "Alcoholism is the prime enemy of athletics." Kuebler, Braet, Briek Schotte in like vein. The editor denounces "the intense and lying propaganda which calls drink an ally of sport."

Each year the National Committee Against Alcoholism organises a School Contest (*Grand Concours Scolaire*) for the pupils of all primary schools in the country which participate in the annual Antialcohol School Day. The competition is both in composition and in drawing and the subject this year is the 'slogan,'

> "If you drive, don't drink.
> If you drink, don't drive."

Winners receive useful prizes.

Here and there in the handbook are other short slogans to impress on children's memories. Thus

Maison de buveur	*Drinker's home is*
Maison de malheur	*Sorrow's home.*
Qui boit	*Who boozes,*
Déchoit	*Loses.*

II

The Antialcohol Manual of Dr. A. Hoorens (1950) has had the collaboration of Prof. Dr. Ley, Commandant Castiaux of the Belgian Army, M. le Advocat Van de Kerckhove, Canon Lemmens, the Abbé Castermans, and others.

The Introduction opens: "Those who have reflected a little on the nature and origin of the curse alcoholism, have generally concluded that the most efficacious weapon wherewith to combat the fatal habit is by antialcohol education of the youth. Methodically organised and given regularly, it cannot fail to exercise a very profound influence on children, the effects of which will be felt through life. The concept 'Alcohol is a toxic substance' should be imprinted on their sub-consciousness in order that they may feel an instinctive aversion toward drink.

"May this Manual, members of the teaching corps, enable you to organize systematic antialcohol teaching so that the coming generation may have a horror of alcohol. So will our purpose be reached,—that of making ours a sober and happy people."

This, of all European texts on the subject, is perhaps the most unrelentingly hostile to drink. In large part it speaks to children and hence is full of warning. This takes many forms. A considerable part is devoted to selections for school reading,—Alphonse Daudet's terrible "Pay Day," Tolstoi's "The First Distiller," Seneca "On Wine Drinking," Nansen on alcohol and polar cold. The pieces in verse for recitation are admirable. "Winter Plaints," (i. e. of underclothed and undernourished children) by Émile Bonnard, the "Legende Arabe" by Maillet, even Franklin's nine-lined tribute to "Temperance." "The Golden Beehive" is another clever original poem. The title is the name of a Belgian drinkshop; the bees are hard workers in steel and coal-mining industries, who bring their earnings, as bees honey to hive, and leave them in this tavern. (In collateral Belgian literature I find a witty parody on Lafontaine's fable, "The Fox and the Crow," with similar moral.) And there are temperance songs, set to traditional airs, ten verses on Alcohol, to *Le bon Roi Dagobert* and "Piévrot (the drunkard) Is Off to the Wars," sung to *"Marlborough s-en va-t-en guerre."*

Then come sentences for copy books and analysis:

1. Alcohol is a chief executioner of women and children.
2. One joining the fight against drink does his country immeasurable service.
3. The abuse of alcoholic drink destroys more Belgians than any infectious disease.
4. Casimir Perier (former French statesman) calls alcohol "a marvellous agent for light and power. What we ask is that they fill lamps and tanks with it, but stop pouring it into stomachs."

Write in a large clear hand, *ALCOHOL IS A POISON.* Count the numbers of letters in writing it sixteen times. Post it in the class room during the week. Also the sentence, *"Eau de Vie est Eau de Mort."* Cut out silhouettes and make a frieze for the school rooms,—three wine cups alternating with the words *Alcool nuit* (Alcohol injures).

Then come half-page discussions on,

1. The harmful effect of alcohol on the organism.
2. How it reduces resistance to disease.
3. How it lessens capacity for work.
4. Alcohol, poison of the nervous system.
5. The hypocrisy and perfidy of alcohol.
6. The curse of the century.
7. The first steps toward alcoholism.

In the arithmetic classes are calculations for children:

A laborer gets drunk and, in falling, breaks a limb. What does it cost for lost working time, doctor's visits, medicaments during weeks of recovery?

A family father drinks two liters of gin a week. A liter costs so many francs; how much does this habit withdraw from his family yearly?

The people of Belgium spend sixteen milliards annually in drink, enough to build 80,000 houses at 200,000 francs each ($10,000). That would build 1,540 houses *weekly,* sheltering 7,000 persons, a small city. And this estimate does not include cost of bootleg liquor!

(Our great sociologist, Jules Lejeune, tells us that the money spent for drink would in twenty years, enable factory workers to buy all the manufacturing plants of Belgium.)

A warning is given the children themselves by the Belgian Academy of Medicine:

"Numerous and agreeing observations have shown that attention and reasoning powers are quickly injured in the child as a result of even very small doses of this poison. Even wine and beer lessen the chance of successful study."

Occasionally the classroom is brightened with a story at the expense of the drink-trade:

"Two heavy trucks rolled along an highway. At a railway crossing they stopped and the drivers chatted. "What are you carrying?" "Gin." The barrier was raised. The inquirer said laughingly, "You go ahead, brother. I'm loaded with gravestones for those your poison must first kill."

. . . . .

For older students, pathology in plenty.

"Abstinence is easier than moderation. . . . Moderate drinkers cannot pass as models in life. It is among them, perhaps, that one finds the real sore of *latent* alcoholism, a widespread

evil, much more dangerous than drunkenness since it easily escapes attention." Moderate drinking is described as "a prodromic phase. The symptoms of alcoholism here appear *en petit.*" Dr. Heilbronner had an after-dinner conversation unobservedly stenographed. On the morrow he read their conversation to those who had been present. All were stupefied. They refused to believe that they had talked so foolishly.

"Weaker doses produce in a weaker degree, at times almost imperceptibly, the same symptoms. They give a false sensation of euphoria (bodily contentment) which in turn creates passion for drink."

Some have been unable to induce sclerotic kidneys in animals with strong doses of alcohol administered for months. They conclude that alcohol does not produce sclerosis of the kidney.

But this disease appears only after years of excess. All clinicians agree that great numbers of alcoholics succumb to kidney affections. In many cases no other etiology can be found than alcoholism. By continuing two years, other experimenters have induced kidney lesions.

As to tuberculosis. The French National League Against Tuberculosis has published a chart indicating the close parallel between consumption of alcohol and incidence of this disease in all parts of France.

Dr. Chatelain compares the arteries of an alcoholic to worn-down water pipes in an old house. They are little better than if made of *papier maché.* Some day, because of a too copious meal, of some bodily effort, or of a slight emotion, they will crack as an old water pipe does. That is why alcoholics so often have apoplectic attacks.

As to alcohol and digestion. Put in water some pepsin, a few drops of hydrochloric acid and a cube of meat. In twenty-four hours this last will be digested. Substitute for water a five percent alcohol solution and there will be but a partial digestion. Use absolute alcohol and the meat will simply be hardened. Heavy doses of alcohol drive the blood to the skin, depleting the blood supply in the stomach and thus hindering digestion.

And so on.

The writer speaks scornfully of "platonic-scholastic temperance teaching" such, perhaps, as that proposed in certain Amer-

ican circles. It has little relation to life. Unflinchingly realist exposition alone brings results, as in neighboring Holland. In 1900 that land's alcohol consumption was "as much or more than ours." In 1930 its absolute alcohol consumption had fallen from 8.26 per head to 2.49: "If Holland today passes as one of the most sober nations in Europe, it owes that fact uniquely to an intense anti-alcohol education, beginning in the schools."

The Department of the Belgian Congo Government, which provides information for the Congo native people, is actively developing a program of temperance education. Its textbook is *L'Alcool et l'Alcoolisme* by M. Roelandt, 34 pages. It presents the effects of alcohol on individual, family and community. The point of view is "Alcohol, our enemy." And there are those who would deprive American school children of the temperance instruction planned even for Congo black children!

IV

TEMPERANCE EDUCATION IN SWITZERLAND

Switzerland is a Federation of twenty-five Cantons and there is no uniformity in temperance teaching. In some Cantons it is obligatory, in others not, and in general the teaching depends largely on the interest of the teacher in the subject. Nevertheless there is a valuable literature at the disposal of school teachers issued by the *Secrétariat Antialcoolique Suisse* and the Swiss Society of Abstinent Teachers.

As representative of the intelligence and quality of this literature one can mention the Wall Pictures (two by one and a half feet in size), a series which has already reached No. 141. These are sent to any school requesting them. They are extremely beautiful in color and with each is a four page pamphlet with scientific material to demonstrate it.

No. 137 is entitled "Child, Brain, Alcohol" and is a reproduction of the Swiss artist Ankers' lovely portrait of a little girl of five years. Under the maiden face is written,

"Sensible children drink neither wine, most, or beer. The alcohol in these drinks injures their sensitive brains, makes them sleepy and indisposed to study."

The explanatory circular begins, "With an inquiring expression, this lovely child in the painting of Ankers looks out into the world. Under the wealth of blonde hair one discovers a broad, fine forehead.

"From a well-developed forehead one naturally infers a well-developed mind. That the skull is a sort of bony box, every child knows and it is easy to understand that its content is precious when one considers the pains Mother Nature has taken to encase it.

"The brain is indeed the most delicately built and finest of all wonders the body has to show, the highest of all, the workshop of the spirit."

The writer then goes on to describe its structure and functions; after this, the disorganizing action of narcotics and especially of alcoholic drink.

He calls attention to the greater proportion of brain-weight to general-weight in children compared with adults,—a seventh in the case of the child, a fortieth in the grown man. Hence when alcohol is given to a child, or to an adolescent, a greater amount of alcohol is proportionately absorbed by the brain than is the case in elders. And not only this. A child's brain is unquestionably much more sensitive to alcohol's action. The effect which is most noticeable is an increased sense of weariness and, following this, a decrease in power of attention. This makes the child harder for teachers to teach and less able to learn.

In 1928 the French physician, Dr. F. Humbert, wrote for the League of Nations' Subcommittee on the Protection of the Child,

"The action of alcohol on its mental capacities gives more cause for alarm than any physical injuries it may receive.

"One is naturally indignant on hearing of an intoxicated child. Yet not less serious are the consequences of light, but repeated, paralyses of the brain resulting from drink,—sleepiness, indifference, functional disturbance, neurasthenia, and so on.

"To teach children who live in an alcoholic *milieu,* however slight, is like pouring water into a barrel without bottom.

"Alcoholism, even of low degree, affects children much more dangerously than grown-ups,—physically, because of its effects on the cells; mentally, because it paralyses the daily inclination to seek new impressions. School years are the period for learning to do and to know, but alcohol, according to Claude Bernard, is 'the perfect type of a poison of the nervous system' and thus of the system whose function it is to awaken these impulses to learning."

Picture 138 represents a sunny Alpine meadow full of flowers with a background of lofty granite peaks. It is devoted to the fine and wholesome joys of outdoor life as contrasted with the degrading, mediaeval drinking customs. This is illustrated in the life of the great Genevan botanist, Henry Correvan, who was also an apostle of simple, natural living. The text is from his Appeal to the Young People of Switzerland in behalf of alcohol abstinence:

"Field and forest, mountain and valley, pour forth life and joy but the man of our time is unsteady and nervous. While the sun shines in the clear sky and the flowers send forth their per-

fume, he buries himself in taverns and amusement halls in order to kill time."

Correvan was the great authority on Alpine plant life, author of many technical works and also of popular botanic literature. The first botanic garden established by him was in the Great St. Bernard Pass and in his lifetime he organised nine others. The hatefulness, suffering and disharmony which follow the trail of alcoholic drink, awakened his conscience and here he was in honored Swiss company as, "the father of physiology," Albrecht v. Haller, Prof. Dr. Forel, eminent brain investigator, Hermann Christ, the celebrated Basel botanist, and Albert Heim, the Zurich geologist, not to speak of the great psychiatrist, Bleuler, and the leading Swiss clinician of our time, Dr. M. Roch.

Picture no. 141 has to do with the immense expenditure for drink in this land of little resources, 860 million Swiss francs yearly, some $215 million. What would not these millions mean in terms of life-insurance, savings for children's education, washing machines, summer vacations. Yes, Alpine excursions, unforgettable trips up the Jungfraujoch or the Gornergrat in a fortnight's vacation.

No. 135 has a similarly Alpine note, a striking picture of an Alpinist hanging by rope from a cliff against a cerulean sky. Nothing could be bluer than this sky. Is this figure André Roch, the great mountain guide? It is not stated but his words are quoted below it:

"To be in full possession of his powers, the Alpinist must, before every great effort, keep away from all alcoholic drinks."

Then he goes on to particularize. "It is dangerous in the great climb since it increases the feeling of weariness. Further when one attempts a difficult piece of mountain scaling, one often exposes himself to wet weather and at times one bivouacs in cold and hunger and exhaustion. One who lives a wholesome life and neither smokes nor uses *alcoholica,* bears strain more easily."

The Swiss Alpine Club's Manual, *Bergsteigen* (Mountain Climbing), gives a list of food to use on tours; also of drinks,—warm sugared tea, Ovosport, or a mixture of both. At evening in Alpine hut, a blend of linden blossoms and peppermint tea. "Alcoholic drink during the tour is dangerous."

The effect of brandy in lowering body heat and inducing

sleepiness is explained at length. There is another danger in the high Alps, that of sunstroke. *Bergsteigen* orders for this a sugar solution and coffee, certain specified headache powders and,—no alcohol! Alcohol works as disastrously in heat as in cold.

Wall Picture no. 139 is another vision of clouds and great mountains. In the foreground is an airplane in flight and the title comes from Walter Mittelholzer, a Swiss pioneer in aviation:

"To use alcohol is nothing but injurious to the aviator."

He was speaking to Swiss youth as a whole, just before death in 1939.

Then comes a digest of *Médecine de l'Aviation* by the French Army physician, Prof. Dr. J. Malméjac:

"The profession of flying, and especially military flying, makes greater demands than any other type of work. One must possess keenness of eyesight with good functioning peripheral and depth sight, capacity for attention and concentration, and presence of mind.

"A chief problem has to do with the decrease of oxygen as one ascends. In the lungs, the blood takes oxygen from inbreathed air and this is partly dissolved in the blood plasma and partly united chemically with haemoglobin. This last, after its enrichment with oxygen, is called oxyhaemoglobin. The blood carries the oxygen, it is one of its chief tasks, through the capillaries into the body tissues. Then it brings back the waste product, CO_2, into the lungs, whence it is breathed out.

"The higher one rises from the earth, the lower the oxygen pressure. Therewith sinks the quantity of oxygen brought into the blood plasma. At 3,000 meters above the sea, the oxyhaemoglobin content of the blood is already only 85% normal.

"Lack of oxygen conditions a series of disturbances. Above all, capacities of sight are affected, especially at twilight and in color discrimination. The tempo of breathing and pulse are greatly increased. The digestive tract is also unfavorably influenced. This expresses itself in a diminished production of saliva and stomach and pancreas juices. Want of oxygen also causes disturbances of the so-called inner breathing. The intermediary metabolic products are incompletely excreted. Carbon dioxide in abnormal quantities passes from the body tissues into the blood, thus destroying the important base-acid equilibrium.

"Mountain climbing and laboratory experiments have proved that a rich intake of carbohydrates increases the compensatory power of the body over against lack of oxygen. When, for example, one gives an experimental person at conditions corresponding to a height of 4,500 meters, fifty grams of grape sugar, disturbances of sight retreat to conditions obtaining at only 2,500.

"Other disturbances are occasioned by the swelling of the internal gases in the organism with decreasing air pressure. At a height of 5,000 meters, it is doubled; of 12,000, sevenfolded. The swelling of gas in the middle ear explains most of the flyer's difficulties in hearing. The flyer should avoid carbonised drinks and gas-forming foods.

"Great speed as such is not dangerous to the organism. On the other hand, backward movements as sudden changes of speed, vertical climbings and quick drops, occasion severe functional disturbances,—seeing black, vertigo, excess head-pressure. Intake of food works as a corrective but alcohol influences unfavorably the sensations of equilibrium.

In the *Annals of Nutrition and Alimentation,* Prof. Malméjac writes,

1. Alcohol lowers innner breathing and causes a truly poisonous lack of oxygen.

2. Alcohol causes a widening of the capillaries of the body surface, disturbing the warmth-economy of the body. There follows an increased loss of body heat and the flyer is in danger of freezing. At a height of 11,000 to 12,000 feet, the temperature sinks to 56 degrees centigrade.

3. Alcohol disturbs the equilibrium,—a great danger for the flyer.

4. The effects of alcohol on psychomotor and especially purely psychic functions are so important as to need no laboring. Attention and memory are reduced, power of judgment slowed down, the senses, especially of sight, disturbed or even put out of function for the time being.

We are bound then to believe that alcohol works especial injuries to the aviator.

. . . . .

A recent essay by Dr. M. Oettli entitled, *Mieux que l'Alcool* (Better than Alcohol) dwells less on the alcohol pathology of the

organs and more on the "astonishing riches" of the nervous system, the alimentary value of milk, with an account of its chemical composition, and on fruits and their destruction by moulds and yeasts. It seeks to give a positive basis for instruction on the alcohol question.

The composition of mother milk is explained at length, with its albumens, sugar, fat, mineral salts and its adaptability to the child body needs. Here are true chemical wonders. The mineral salts in the milk of a mother rabbit are, in percentages, practically identical with those in the blood of her young. Yet the proportions in her milk vary markedly from those in her own blood. The following table makes this clear:

	Percentage of salts in rabbit two weeks old	*Percentage of salts in milk of mother*	*Percentages of salts in blood of mother*
Potassium	10.8	10.1	23.8
Nitrates	6.	7.9	31.4
Chalk	35.	35.7	.8
Magnesia	2.2	2.2	.6
Oxide of iron	.23	.08	6.9
Phosphoric acid	41.9	39.9	11.1
Chlorides	4.9	5.4	32.1

Milk is the serum of the blood with the above chemical components in different proportions. The serum is miraculously transformed so that, when it becomes milk, its chemical elements correspond early to those of the offspring.

"So with a serum rich in soda, the mother makes a milk which contains much less soda than a serum does; with a serum poor in potassium, a milk with much more potassium. For bone construction of its little ones, the mother provides it with a blood rich in chalk and phosphoric acid, although her own serum is low in these two contents. Only iron is not brought to the child by the milk, there being an abundance before birth."

Into this delicate adjustment of chemical elements some would pour the alcohol of "beer for nursing mothers," as if to illustrate the folly of tradition.

Mothers' milk does not remain the same from the first day after birth to the end of nursing. A young being grows rapidly at first, then more slowly. The milk is at first rich in constructive elements, containing so much albumen that it curdles when

heated. Later it becomes ever poorer in albumen and proportionately richer in material suited for action.

Dr. Oettli's account is based on the discoveries of Prof. G. v. Bunge of the University of Basel, who studied milk for thirty years and declared it to be one of the marvels of organic life. He also engaged in inquiry regarding the "increasing inability of European mothers to nurse their children" and concluded that this, with associated degeneracies such as tooth decay, could be traced to parental alcohol habits. With the aid of physicians in many lands during ten years, he assembled statistics on the degeneracy of the milk gland. They pointed to the conclusion that if a father was a drunkard, the daughter was very apt to lose the power of nursing, even though her mother may have possessed it.

Prof. Gounelle, writing on alcoholism in the great French *Treatise on Medicine* (1948, p. 683) says, "One should notice that alcoholic drink has a tendency to dry up mother milk *and this inaptitude for nursing is transmitted from mother to daughter,* even if the latter is sober."

Of experimentation in fermentation, Dr. Oettli gives the following illustrations in a section entitled,

The destruction of valuable foods by ferments and moulds

"Wash a potato carefully. A potato is a tough, healthy thing. I cut it in halves and inoculate it with germs by spitting on it or rubbing it on the sole of my shoe. The potato mocks at such attempts. It is strong and well and its good health protects it from germ attacks.

"Let us then find a rotten one in the cellar, one whose interior looks like gravy, with ill-smelling odor. I mix this rotten sauce in a little water and dip in this poisoned soup the entire surface of the other slice of the potato. If it could talk it would mock me and say, 'You well know my perfect health protects me from sickness!'

"Health is the best of remedies. If you put the potato slice in a jar of damp moss to prevent its drying, it makes for itself a new skin and sends forth sprouts. One cannot show more clearly what health is.

"So I call to my aid a product which some use as a symbol of health, when they drink 'healths,' and others even use as a medicine. I fill a small jar with brandy and put in it a slice of

potato, half being in the jar and half outside. After five minutes, I take it out of the bath. One sees no change. I wash it carefully under the faucet to take away every trace of the brandy. The potato slice seems as sound as ever.

"Then I dip the potato entirely in the poisoned soup previously prepared. In other words, I put the germs of disease on the whole piece. Really this is not necessary since the potato piece is sufficiently inoculated by germs in the air. I put it in the jar in damp moss. Already, the day after, one can mark which part was dipped in alcohol. After some days this half has begun to rot while the other half is putting on new skin.

"The entire piece of potato was in contact with disease. The half which was not plunged in the brandy has successfully defended itself, thanks to its good health, while the other half which had absorbed alcohol has become its victim."

A similar experience on a red beet is described. "Take two slices, a half inch thick each, and wash them thoroughly at the faucet until no red appears in the water. Keep one on a plate as a control; the other, expose to vaporized alcohol as follows:

"Put at the bottom of a jar a layer of little pebbles, well-washed, several inches deep. Then pour in a little alcohol, not enough to reach the top of the pebbles. Lay the beet slice on the pebbles. After an hour, or better several hours, take it out, thoroughly wash, and lay on a plate. While the untreated beet-cutting is unchanged, the alcoholised one has become brown and a film of malodorous germ decay has appeared.

"There is no doubt,—it is a corpse."

The conclusion of *Better than Alcohol* draws the lesson from its scientific studies. "Wine's action follows the paralysis of centers of inhibition. It is agreeable to let ourselves go and it is for this reason that men drink. Certain nerves no longer work and they are just the ones which provoke disagreeable sensations. Fatigue disappears, or is lessened, likewise ennui, pain and remorse of conscience.

"But these disagreeable sensations are not sent to torment us without reason. Fatigue warns us against working, when working would mean overwork. Pain signals an abnormal condition to be attended to. The bored person who drinks makes no further effort but vegetates miserably."

Follow tables of the immense expenditure for this drug in various forms. With these sums we could build *daily* in Switzerland a beautiful garden-city with all its accessories. The advantages to health from ending this waste can be realised from the fact that in Switzerland every fourteenth man over twenty years dies a drunkard.

Description of methods devised to prevent the turning of *Traubensaft* (grapejuice) into *aqua mortis* are then added. Fifty years ago the juices of sterilised fruit were unknown in Switzerland. Today forty million liters of sweet cider are consumed yearly and in some parts of the country excellent sweet cider is found even in most taverns. The eating places in railway shops, post-offices, and factories are more and more selling unfermented fruit drinks. In great enterprises, as for example the construction of an artificial lake at Grimsel, a striking reduction of accidents has occurred in those sections having canteens without alcoholic drink.

As a result of a constitutional amendment, which imposed on the national treasury the duty of diminishing the manufacture of drinking-spirits and of encouraging the production of fruit, fruit juices and dried fruits, the percentage of apples and pears used in the last category has now risen to 63%. Distillation of fruit, apart from fermented cider, fell from 23% in 1922 to 1.1% in 1943.

Cooperating with the teaching corps of the schools, is the travelling exhibition, "A Sound Folk." This goes out from Zurich to all the larger centers in Switzerland, bringing information on the hygienic relation of alcohol to health. It has the patronage of all sorts of important groups, the Union of Swiss Physicians, the Swiss Teachers' Union, the Swiss Athletic and Sport School, the League of Swiss Women, the Swiss Catholic Women's League; also of many important Swiss savants.

Through the pages of this Guide one finds utterances of leading Swiss personalities. Thus,

National Counselor Emil Frey of Winterthur, "Whoever knows the hell in which children and wives of alcoholics live and the sore injuries of body and soul to which they are exposed, cannot be indifferent, for it is a question of the right of all children

to a good upbringing and therewith of the welfare of our whole people."

The stratosphere explorer, Picard, "Wherever there is drunkenness is poverty and misery following close after, as shadow after body."

Prof. Dr. M. Roch, Director of the University Clinic of the Geneva Cantonal Hospital, "People are unaware that, in our land and apparently in most countries of the temperate zone, alcoholism is the weightiest cause of sickness and death."

Dr. med. G. Schoenholzer, Physician in Chief, Swiss Railways, "The greatest progress in traffic safety would be to bring up a generation of young people who know nothing of alcohol." (What Americans aimed to do by means of National Prohibition.)

Prof. Dr. Dettling, Director of the Legal Medicine Institute of the University of Berne, "At the present time, the most monstrous occurrences are taking place on our streets because of the alcoholism of the driving public."

Prof. Dr. Emil Brunner, "A man in any responsible position today must be able to explain, not why he is abstinent, but why he is not."

Emil Jucker in *Pro Juventute,* (For Youth): "Thousands of talented boys and girls could today learn a trade or profession if the father would but dedicate a part of his drinking money to his children, or set it aside for educational insurance."

Such is the point of view of Swiss intellectuals, or many of them. We are told here of the great extension of Swiss alcohol-free restaurants under the leading of Susanne Orelli; of the Soldiers' Homes established by Else Spille; of the pioneer work for the cure of drunkards at Ellicon, with eleven other institutions on the same lines. This treatment is being introduced into army and prisons. All useful ameliorative work which will never much disturb the drink interests! For alcohol consumption in Switzerland continues to rise as elsewhere, at a frightening rate. There is only one rational cure, the ending of manufacture and sale.

War-time wine rationing in France, an approximation to Prohibition, did more during its duration than decades of other "approaches."

V

IN THE SCHOOLS OF GENEVA

The city of Geneva, through its Department of Public Instruction, in association with the Antialcohol Teachers' Union, has issued a singularly attractive Manual of Physical and Moral Hygiene in 245 pages, entitled *Jeunesse Saine,* Sound Youth. At various points throughout the book the alcohol question is broached judiciously.

The first lengthy passage deals with the effects of alcohol on the nervous system.

"Acute alcoholism, or drunkenness, is temporary poisoning with alcohol. Chronic alcoholism is slow poisoning. One who drinks daily . . . a certain quantity of wine, poisons himself, if slowly, yet certainly.

"Alcoholism can lead to incurable insanity. In Switzerland, three out of every ten in insane asylums, are alcoholics (Dr. Bersot's 1935 Investigation).

"The alcoholic injures not only his own health but that of his children who often have grave nervous defects, at times in the form of violent crises."

(In Chapter IV) "The entire organism suffers severe injuries from alcoholism. Organs function badly, tissues deteriorate, resistance to disease is lowered.

"It is the seedbed of tuberculosis as the French specialist, Landouzy, has said. This applies also to other sicknesses.

"The mind, too suffers. The intelligence is disturbed, ideas associate badly, words fail of expression, the memory is weakened, judgment clouded. Character is changed for the worse. How many criminals at the bar say, 'I recall nothing. I had been drinking.'

"Money spent in drink is taken from the needed resources of the home. The house-mother must buy on credit at the grocer's. Children lack clothes. Frequently these children are tuberculous, rachitic, or mentally backward.

" 'Do you know,' said Lammenais, 'what the man drinks

from the glass shaking in his hand? He drinks the tears, the blood, the very life of his wife and children.' "

Then come statistics of the hideous alcoholic waste which drink causes the Swiss people. This is underscored with a description by Dr. Albert Schweitzer of a voyage down the Ogooue River in West Africa:

"One sees on the river-bank houses fallen in and abandoned.

" 'When I came to this country twenty years ago,' said a trader to me, 'nearly all these villages were prosperous.'

" 'But why are they no longer so?' I replied.

"He shrugged his shoulders and said in a low voice, 'Spirits! Most of the money coming into the country in payment for timber is spent for liquor. Everywhere in the colonies, drink is the enemy of civilisation.' "

Follow other expressions of opinion. The novelist, Paul Bourget: "Alcohol, in however little amount and in what form soever, is an insuperable hindrance to mental work."

The great Spanish 'cellist, Pablo Casalis, "The drinking habit, whether of wine or beer, is bad and ought to be fought."

The Swiss champion rifle marksman, Revillod de Bude, "The greater the things one attempts, the less should be the use of alcohol." In view of this statement, one is not surprised at the recommendation of the General Staff of the Swiss Army at the opening of the war (May 29, 1940):

"Persons who want to give refreshments to the troops should give fruit, tea, milk, fruit-juice, sweet cider,—no fermented cider or other alcoholic drinks if they do not want to make harder the efforts of our soldiers at self-discipline."

There are various selections on this subject for reading. Here is an account of the superhuman and successful attempt of two German Alpinists to climb the sheer north face of Cervin. On the morrow, a journalist asked the Schmidt brothers what provisions they had had.

"Lard, cheese, bread, chocolate, dried fruits."

"No alcohol?"

The youngsters could not restrain their surprise at such a question and replied, "Alcohol! Oh, no! Not *that* above all else."

On page 154, mention is made of the extent to which drink has been driven out of industrial plants or supplanted by whole-

some drinks. "Workmen, whose trade exacts precision and manual skill, soon learn how harmful alcohol is. Thus watchmakers experience sight injuries and trembling of hands if they take liquor." Prof. Roch of Geneva is quoted,

"In the night of Nov. 30–Dec. 1, 1930 seventy seven men were hospitalized in the Cantonal Hospital of Geneva. More than half had visible signs of intoxication. For nearly all it was exclusively alcoholism which had brought them to the hospital,—troubles of heart, stomach, nervous system. That which was dominant was cirrhosis of liver of which we had thirteen cases, a frightful number.

"All my assistants, nine in number, agree with me that a cry of alarm should go forth."

En Resumé

"Alcoholism is the direct, or indirect, cause of numerous diseases. It increases the number of tuberculous and insane. It provokes crimes and accidents, kills love of work, breeds poverty, diminishes the intellectual and moral worth of a people, and burdens society and the fatherland with excessive expenditure." (From close of Chapter IV.)

VI

TWO GERMAN TEXTBOOKS

A circular of the German Ministry of Public Education for Oct. 2nd, 1933, after expressing the wish of the Ministry that every professor be thoroughly acquainted with the alcohol question and stating that visiting teachers with this knowledge were to be accredited to the teaching force to help them; that all points of view were to be considered,—social, racial and moral; and that similar activities were to be developed in the professional and normal schools, continued,

"It is strictly prescribed that teachers furnish an example of abstinence. Travelling antialcohol exhibitions, which have been recommended in the past, are prescribed for the future. . . . In assembling objects for exhibition and in the method of exhibition, much emphasis should be placed on race hygiene."

From Germany comes a *Handbook for Instruction in the Alcohol Question* newly published by the Hoheneck Verlag in Westphalia. This is a German Catholic Press which insists that—"enlightenment on the dangers from habit-forming substances belongs, together with a competent development of will and character, to the very foundation of modern education."

It is by Hans Sager and has an introduction from that *Altmeister* of alcohol study, Prof. Dr. R. Streicher.

The subject is treated with German orderliness and thoroughness,—Alcohol and Bodily Accomplishment, Alcohol and Mental Accomplishment, Public Health and Alcohol, the Political Economy of Alcoholism, the War on Alcohol, etc. An uncompromising book and an able one.

First, from "The Way of Alcohol in the Human Body."

"While the stomach wall is impenetrable to water and genuine foods, alcohol goes directly through it into the body's interior. Cell walls are always able to admit true foods, as sugar, *in utilizable amounts.* But regulatory power does not exist in

the cell over against alcohol because alcohol, by its narcotic action, paralyses cellular defense against its entrance.

"The speed with which alcohol is absorbed depends on many circumstances. Since alcohol is fat-soluble, fatty foods as milk retain it longer in the stomach. On the other hand, the brain being rich in fat, takes up and retains for a longer time the larger part of the alcohol in the blood stream.

"The blood carries the alcohol to all parts of the body and it is divided fairly equally,—with the exception of the brain and other fatty areas more obviously injured by it than other organs are.

"The euphoric, or pleasantly narcotic, action of alcohol, which is the real reason for drinking, is but the beginning of an alcoholic anaesthesia, a paralysis of the large brain.

"The spinal marrow is also paralyzed. Reflexes are slowed down and can even cease altogether, as in the case of such well-known tests as knee and eyelid reflexes. These no longer respond. Involuntary defense movements cease. At times the contents of bowel and bladder are evacuated, also involuntarily, a phenomenon which the wives of drinkers know only too well.

"The amount of carbon dioxide eliminated in breathing is in a fixed ratio to the oxygen consumed by the body. This ratio is called the respiratory quotient. The quotient is lower for alcohol than for protein and fat (i. e., less CO_2 is outbreathed in oxidation). The true reason for alcohol's reduction to CO_2 and water is to rid the body of its poison effect as speedily as possible.

According to Koenig there are,

	In unfermented grape juice	*In wine*
Water	70 to 80%	80 to 94%
Sugar	10 to 30%	.02%
Alcohol	None	5 to 15%
Minerals	.3 to .5%	.1 to .3%

"Alcohol for technical purposes is more and more made out of wood and its calories are no longer claimed as of 'food value' by the embarrassed apologists of this poison."

. . . . .

The quoted experimentation following will be confined to

German sources and primarily to those dealing with results called in question in some American circles, as for example,

Alcohol and Heredity

After speaking of the difficulty in securing experimental proof of alcoholic injury to the *human* germ cell, the author notes that,

a. According to popular reports, a good wine year is apt to be followed seven years later by inferior mental material in school entrants.
b. Whole families, as the Zero and Kallinak families, are tainted with alcoholism in combination with insanity.

As to animal experimentation, the writer insists that responsible German investigators, as Fetscher, Lenz, Muckermann and Stammler, are in agreement in accepting as valid the very extensive animal studies of Dr. Agnes Blum.

Dr. Blum started with 114 experimental pair of white mice and 114 control pair, all of closely checked breeding, to ensure the greatest inherited similarity. In all, 32,000 mice were observed. *Only the first 114 males were alcoholised with a slight alcohol solution,* six times weekly.

Thus the whole posterity of one little male was apparently influenced by the minute alcoholised seed-cell of this one ancestor. This posterity was observed through seven generations. The most important recorded results were as follows:

1. Growth, measured by increase in weight, apparently slowed down in the posterity.
2. The number tagged with the words "general weakness" increased.
3. Sterility produced in both male and female offspring.
4. Lessened average size of offspring because of mortality before birth.
5. Increase in infant mortality.
6. Increase in mortality from general physical weakness as the offspring grew older.
7. A greater injury to male offspring than to female.

. . . . .

The Warteggsche Drawing Tests, rather recent, exhibit the action of alcohol on intellectual activity. This has to do with the filling in of squares in which the drawing elements are lines, points, angles, curves and arches. According to mental gift, one draws pure ornament; another gives rein to free fancy. After a

determined time a dose of brandy is taken. Five minutes elapse and then the task of filling squares with drawing is assigned. In agreed-on intervals, further amounts of alcohol are taken and the same drawing tests submitted.

These tests show first that full action of alcohol does not immediately appear; further that effects continue for hours after the last dose is taken. The finished drawings show lowered mentality. If these results are difficult to present statistically, they in no way lack impressiveness. For their better understanding it would be necessary to display in picture form the whole experimental series.

At the entrance of the University of Berlin are two statues, on the left that of the historian Mommsen; on the right, of the physicist, Helmholtz. At the end of the Warteggsche experiments, here described, is placed an extract from Helmholtz' memoirs in which he states the conditions most favorable for original intellectual thought. "These are not found when the brain is weary but rather in a state of physical freshness and comfortable well-being. An especially favorable time is during easy gait up woodland heights in sunny weather. *But the slightest quantity of alcoholic drink suffices to drive them away.*"

. . . . .

There are still some few who minimise the extent of mental injury from alcohol, but only few. Prof. Kraepelin of the Munich Psychiatrical Institute declared that a full third of those interned in Munich for mental weakness owed their defects directly to alcohol, while in a whole series of other psychical maladies of the severest kinds, alcohol played a decisive role. In his epoch-making work, *The Effect of Alcohol Shortage in Wartime* the relation between beer-drinking and insanity is made clear. It is the statistical story of Bavarian beer experience before, during, and after World War I.

Average beer consumption as compared with 1906	*Cases of cerebral alcoholism in Munich clinic*	*Male insane in all Bavaria*
1906 100	100	100
1907 ..... 98.8	91.4	104.6
1910 ..... 88.6	94.9	111.3
1914 ..... 75.8	68.2	128.6

1915	58.1	31.8	85.6
1916	43.1	11.3	84.2
1917	21.9	13.3	89.7
1918	16.1	6.5	83.2
1919	16.1	11.6	85.2
1920	22.8	21.2	109.3

The same German Catholic Press publishes an admirable *Work Manual and Reading Book on the Alcohol Question* by Gerhard Hueffman, entitled *Poison in the Brain.* With only 22 pages and written for children, it is filled with physiological information, making especially clear what happens "in the upper storey" when men drink.

The brain and its functions are first described. That of a calf or of a pig looks like a wobbly milk-pudding, interwoven with red veinlets. Examine it carefully. It is composed of many parts (*Ge-hirn,* many brains, as *Ge-birge,* many mountains, or *Ge-woelk,* many clouds). There is a great brain, a little brain, a spinal column,—and of cells, some fifty billion.

"The mental and other functions are localised. Brain wounds in the last war greatly enlarged our knowledge of these functions. When, because of a break in the skull, blindness follows, the physician now knows that the eye is uninjured but that, in this or that brain area, a bone-splinter has disturbed the sight and that this can perhaps be helped by an operation. The Nobel Prize of 1949 was given to a Portuguese doctor, Prof. E. Monitz, for successful operations on the brain which remedied mental sickness."

Follows an account of the functions and their cerebral and spinal location. But the brain can be narcotized and the stages of narcotism are pictured. What brings this about? Narcotics are easily dissolved both in water and in fat. Because of the first quality they can quickly reach the brain in the blood liquid; since the nerve cells consist of a special fat, or lipoid, narcotic solutions can easily press into the cells and paralyze them until they are finally expelled. The substances which have these characteristics are ether, chloroform, and ethyl alcohol. Alcohol is the only drinkable narcotic.

"That alcohol is a narcotic is obvious from newspaper clippings. Thus, 'House-painter Blank was found yesterday dead-

drunk. He lay in streaming rain with broken fore-arm, in a waste lot.'

" 'A drunk made a speech yesterday on a street corner. Today he recalls nothing of it.'

" 'Around New Year one sees everywhere traces of vomit on the sidewalks,' Cf. nausea from ether.

Alcohol has a special affinity for the brain. An autopsy showed in a drunkard's dead body, alcohol in liver .21%, in brain, .47%.

In a dog autopsy, an hour and a half after taking 100 grams of alcohol, the ratios were,—in blood .23 cucm; in liver .19 cucm; and in brain .38 cucm.

"One sees, then, how great is the proportion of the alcohol that reaches the brain. Consequently one must admit that the alcohol question is, in the first instance, a question of brain alteration, even though alcohol first attacks the stomach."

. . . . .

Moral Results. In Heidelberg, of 1,115 body injuries, 742 were received in taverns, 56 in homes, 98 on street, 87 in factories, and 162 not located.*

Alcohol depresses modesty and self-restraint by paralyzing inhibitions. How often we read in the newspapers of festivals degenerating into free fights. Men feel especially conscious of their importance when young girls are about. Hence bloody feuds of rivals in dance halls. In conversation all centers about the blessed *ego,*—what 'I can do' and 'will do.' One becomes a thousand. Just listen to them as they mutter and talk on the streets.

"Explain how this impulse to self-exaltation expresses itself in,

1. Ostentatious generosity in paying for others' drinks.
2. Singing and shouting in the streets.
3. The crash in the house when they get home.

. . . . .

"Think earnestly of the proverb, 'When wine enters, shame leaves.' I have purposely said nothing about sick livers, hearts, kidneys.

"You should recall how much strength and time parents and teachers have lavished on you that you may play even a little on this cerebral piano-board.

"Do you think you would be any happier if you at times played out of tune?"

*Senator Lothar Danner of Hamburg reported the body injuries in the Hamburg area from auto accidents in 1950—171 killed, 5,487 injured of whom 1,184 severely. This has led to traffic instruction in the schools by 25 police officials. In 1950, 250,000 children received this instruction.

Seidel explains that most men are now alcohol-intolerant so that small amounts make them dangerously susceptible to alcohol's action. This increases traffic danger. Further, the weariness which follows after all alcohol is out of the blood, may be as dangerous as the alcohol itself. For this reason, blood tests do not tell the full extent of the alcohol peril.

VII

NOTES ON DANISH SCHOOL INSTRUCTION

Denmark's school legislation of 1937 provided that there should be, in connection with the teaching of natural sciences, instruction in hygiene *and the alcohol question.* Yet there had been desultory antialcohol teaching for many years. Thus the Danish (Temperance) Reading Book of 1931 was the third issue of an edition of 1900. Denmark is the land of the greatest of children's story tellers, Hans Christian Andersen, and it is appropriate that this temperance reader for school children should be largely taken up with antialcohol tales.

That of Edward Egeberg, which opens the series, is a powerful picture of alcohol tragedy in the home. One of these stories comes from Iceland. From the High Song of the Elder Edda is borrowed rhymed comment on the danger of that *stupéfiant,* beer. It begins,

> Foaming ale for man to drink
> Is not so good as some may think.
> The more of it one washes down,
> The less of sense remains that's sound,

and so on, with warning against the danger of drink in travel which is as certainly applicable to an auto traveller today as to those on foot in misty old Northern times. Folk songs, too, are quoted,—how Vismer rode to meet the Elf Queen, who cast into the cup she handed him, two spider eggs.

> As soon as he tasted the false drink
> All in the world passed out of mind

A scarce hidden alcohol parable!

The alcohol physiology is as radical here as in other European manuals. One powerful document is a report of a prison official in Horsens Penitentiary, Denmark. I quote a few sentences:

"Far commoner than the abnormal or criminal in our prisons are those of a third group, the alcoholics, broken down physically and psychically by drink so that they cannot find work or keep it if they do. We have many old men in the penitentiary in whom there is not a bad blood-drop, so to speak, yet who for thirty years have been confined for offenses which financially would not amount to but a few hundred kroner. Men on the brink of the grave come back here through the fatal influence of drink; vigorous men spend their best years imprisoned because of the same weakness. Youngsters look back frightened on their wasted years and say, 'Now there's to be a change; otherwise we shall be naught but prison birds all our lives.' When released each stoutly affirms, 'Never again shall any get me to drink that cursed brandy.' Prison gates open for their departure and lo! drink is waiting for them outside. So we get letters such as the following,

" 'I went away with the best intentions but on the Great Belt Ferry I met an old pal who proposed a glass of beer and the old story began again.'

"Here is the account of one who left with honest intention of living straight and then fell. The newspapers reported the arrest by the police of 'the well-known criminal and thief.' One asks were all his promises and assurances but deceit? One cannot believe it. In prison he was penitent, his conduct good and tractable. It was drink which reasserted its power over him.

"When one has daily contact with these men, knows their earlier life, and follows them after their release, one is indignant not, as people generally, because they are bad. That they usually are not. One is indignant with a society so stupid and so evil that it constantly invites these men to revive the criminal tendencies within them, by means of alcohol.

"In thinking of the criminals I have met through the years, I have come to terrifying conclusions as to the power of drink over them. Taking into consideration all factors, I am convinced that 75% of all who relapse are so given to drink that their crimes are a consequence chiefly of drink.

"The situation being such, we are called to fight alcohol, every one of us, and first by personal abstinence: then by war on its sale, including that of the highway taverns, where the travelling wage-worker lodges over night. Too many young handworkers are destroyed by them and led into the army, first of

vagabonds, then of criminals. Licenses for sale should be greatly limited in number. Spirits should be made hard to get,—best impossible to get. . . ."

. . . . .

The Danish Minister of the Interior's Consulent on Temperance has issued a "Guide for Teachers in Public Schools" (*Vejledning i Alkoholspörgsmaalet*) written by specialists in biochemistry, psychotechnical research and inner medicine, which is critical but unsparing. The masterly statement on *Alcohol and Sickness* by Prof. Dr. Ejnar Jarlov might well be translated for American use. This is also the case with an equally fine statement by the head of St. Hans Hospital, Copenhagen, Dr. Jens Christian Smith, in a symposium of Danish physicians on the subject of dangerous narcotics. Dr. Smith's opening sentence is "*Alkoholen är en Gift*" (Alcohol is a poison) and one needs to read but a short way into this essay to be convinced of it.

"Alcoholism," says Prof. Jarlov, "has through the centuries had an enormous significance as a direct, or contributing, cause of sickness and carries with it, therefore, social dangers of which people in general hardly realise the extent. Here in Denmark, an important contingent of alcohol-injured individuals are found in hospitals, asylums, and other institutions. Numerous sick and work-crippled owe their disability directly or indirectly to drink. An inferior posterity is also a consequence of alcohol. The loss society suffers from chronic alcoholism alone is colossal."

And on p. 100, he gives a minor illustration:

"Alcohol for epileptics is a dangerous convulsive poison which *in very small amounts* can release severe epileptic attacks. This is so well known that all experienced physicians, in handling epileptics, order absolute prohibition of alcoholic drinks in any form and in smallest amounts. This is true even of so-called "temperance beer" (*afholdsöl*), a beer with so little alcohol as to be almost alcohol-free, the alcohol content of which in certain cases is sufficient to induce the described action."

VIII

TEMPERANCE TEACHING IN SWEDEN

In the present year, 1952, C. F. N. (*Centralförbundet för Nykterhetsundervisning*), The Central Alliance for Temperance Teaching, celebrated its fiftieth anniversary. On this occasion the Swedish Prime Minister, Mr. Erlander, described the part the National Government had taken in its development.

In 1905 it began subsidizing the Alliance. Parliament gave it semi-official status by appointing its executive head and by giving its staff the pension rights of teachers. It has also financed publication of its literature for school and army temperance instruction.

In 1926, a Government circular initiated temperance teaching in the biology, hygiene, history, social science, and religious school classes. "The teacher should show the importance of abstinence from alcoholic drink. He himself should give a good personal example."

In 1945, antialcohol teaching in the army was instituted and the text which officers now use to instruct conscripts is also used in modified form for teaching in the public schools. Thus the years of military conscription give a review and fresh emphasis to that which the conscript soldier earlier learned in the common school.

The Central Alliance has one of the largest libraries in the world on this subject,—30,000 entries, elaborately classified and catalogued so as to make the material easily accessible. It has seven travelling instructors going about the country constantly in order to strengthen the teaching. Its training courses for teachers have been led by persons who are tops in the Swedish medical profession,—in earlier days, Profs. Wallis and Henschen of the Karolinska Institut, Prof. Torstén Thunberg, pathologist of Lund University, Prof. Franz v. Schéele, Dr. Gärda Lidforss, a woman physician and brilliant lecturer, Dr. Sjövall, pathologist, Prof. Alfred Petrén, Dr. Israel Holmgren, the great internist, the clinician, Prof. Dr. Tilgren. Today Prof. Dr. Liljestrand, Dr. Leonard

Goldberg, and others in their group of neuropsychical investigators, assist in popularizing new knowledge.

The attitude of the government can be appraised from the words of the Prime Minister, Mr. Erlander, on this occasion:

"In the study of the temperance question *one meets the social question in its entirety in a very concrete way.*"

The truth of this statement is made clear in the government's *Statistical Study of the Alcohol Question,* to which we will presently refer.

Dr. Ivan Bolin, leader for all Sweden in the National School Administration in Antialcohol Education, has given the keynote for instruction (*Forsch. z. Alkoholfrage,* 1939):

"Formerly the teaching aimed principally at showing the harmful influence of large amounts. Not enough attention was given to the fact that so-called 'moderate' doses of alcohol are paralyzing and consequently harmful. Modern temperance teaching, on the contrary, must concern itself above all with the injurious effects of small doses. These effects are often not apparent, an additional reason why the school-teacher should point them out.

"Temperance teaching will, therefore, deal chiefly with the harmful results of the moderate use of alcohol, for the results of the use of large quantities are already well enough known."

National Inspector Bolin has published a textbook entitled *The Spirit in the Bottle* (*Anden i Flasken*). This has 34 little sections, of two or three pages each, under such headings as,

Alcohol acts paralysingly
Alcohol never gives muscle energy
Alcohol does not warm
Alcohol is unusable as a food
Alcohol should never be taken in case of accident
Alcohol no medicine
Alcohol source of sickness
Effects of small amounts
Effects on perceptions
Effects on memory and associations of ideas
Alcohol and sport
Alcohol and traffic
Alcohol and crime
Alcohol and family life, etc. etc.

This textbook is printed in large print so that it may be used as a reading book in lower grades.

To illustrate its presentation of physiological fact in an easy way of entrance to the child mind, we quote the following,

"Two friends, who had not met for years, ran across each other accidentally. They agreed to celebrate with a restaurant breakfast. At the table one ordered a glass of milk, the other a bottle of light beer.

"The beer-drinker remarked with surprise, 'Do you drink milk? I thought that was only for children. I read lately in the papers what wonderful food value beer has, rich in vitamins, every glass containing the essence of 1,400 kernels of malt.'

" 'Wrong,' replied the other. 'Milk is an indispensable drink for old as well as for young. It is nourishing compared with beer and inexpensive. For a large glass of milk, a third of a quart, one pays only 10 *öre,* yet it contains about ten percent of the food a man in light work needs daily. Beer costs three times as much.

"In brewing, your thousand kernels of malt are changed into alcohol, or at least four fifths of them, and alcohol is without any food worth. If this grain were made into bread, three fourths of its value would be preserved.

"But what of the vitamins? They say that the yeast used to make beer is rich in vitamins."

"That's true. Yeast is rich in B vitamins. Unfortunately most of them are destroyed in brewing so that beer itself contains hardly any."

"A liter of milk has as much high quality food as six liters of beer of low quality. Further one must remember that beer brings with it physiological injuries to the body. Even in small amounts it acts paralyzingly and lowers working capacity with consequent inferior output.

"But are you sure alcohol has no value at all?"

The conversation gets beyond the range of hearing. The commentator now speaks:

"The milk drinker was right. Unless the body receives food it cannot live. Large amounts are burned in the body and by resulting heat the temperature of the body is sustained and energy provided for muscular work. Other food elements go to the re-

pair of cells and substitute new cells for those outworn. A complete food should contain carbohydrates (as sugar and starch), fats, proteins, minerals, water, and vitamins. Sugar and starch are the fuel for muscle work; proteins for body-building. Water and minerals also serve this purpose. Vitamins are used as machinery for production of body elements and to regulate many important body functions.

"Why then is alcohol burnt in the body at all if the body has no profit from its burning? It is simply because alcohol, being a dangerous alien element, must be expelled as speedily as possible from the body and the quickest way is by burning it. The purpose is not to warm the body but to get rid of a poison."

. . . . .

On page 75 of *Anden i Flasken* are represented samples of telegraph reception. The same message is taken down by two persons, one without alcohol, the other after a minimal amount of weak beer. This document is borrowed from earlier notes now published in Dr. Leonard Goldberg's masterpiece, *The Action on the Human Organism of Malt Drinks of Differing Alcohol Content* (1952). We reproduce here his final conclusions. They are important for Americans inasmuch as our uninstructed, politically-minded Congress has given 3.2% beer a clean bill of health as "non-intoxicating."

Page 115. The effect of beer on capacity to receive and record telegraphic messages by 25 students at the Army School of Signalling; two groups, one abstinent, the other taking alcoholic drink in the form of 3.2% beer.

1. Three to four bottles of 3.2% beer caused an increase in errors of 56–72%. The alcohol content of the blood was only .05–06%.

2. Two bottles of beer of 3.2% content brought about a blood alcohol content of only .037%, yet the lowering of accomplishment was actually 22%.

Studies made on the effect of low percent beer on automobile driving closely parallel those made on telegraph reception. The conclusions are as follows (p. 91):

"Malt drinks, three to four bottles of 3.2% beer, given to trained chauffeurs, reduced their capacity to handle an auto by

between 23% and 30% although the alcohol content of the blood reached only .04–06%.

"The under limit of alcohol blood content for auto-driving is .035% to .04%. This is reached when one consumes three bottles of 3.2% beer or four of 2.6% beer.

"Alcohol's role in the occurrence of auto accidents is, then, considerably greater than appears from official statistics. Alcohol is a causal factor in more cases, and its action begins at a lower point of alcohol blood-content, than has previously been assumed to be the case."

Here then is the last scientific word on the subject, certified by pages of intricate mathematical equations and graphs.

This school book, *The Spirit in the Bottle,* rightly points out the injuries drink brings to the family although for many school children this certainly requires no teaching. Poor and insufficient food and clothing, mean homes, lack of money for schooling, night violence, bitter experiences which often leave psychical injuries as well as physical, divorce, broken homes,—an international picture and this highly civilised land is not spared it. The Swedish government has just published a *Statistical Study of the Alcohol Question,* which can fairly be characterised as epoch-making. It is the work of a committee of experts who have been studying the matter for seven years and has great significance for other lands besides Sweden. The report itself deals with the relations of alcohol to crime, poverty, and other social phenomena and fills 311 pages.

The leader of Committee is Dr. Erik Englund, a professional mathematician. Its net has been widely thrown. Over 35,000 persons have been cross-questioned regarding their alcohol habits. Furthermore the Committee had at their disposal the 110,000 cases registered in the official sales books of the Swedish companies retailing liquor. This has been critically worked over. One can hardly imagine a more nearly complete examination of the social evils of drink and it is doubtful if any so thorough a study will ever again be necessary. The following summary gives a striking picture of this social scourge.

	Percent of divorces	*Percent of fathers with children born before 8th month of married life*	*Children with education above common school*
Drunkards handled by official rehabilitation committees	5.9%	61.5%	3.8%
Other hard drinkers	4.8	55.4	3.8
Less hard drinkers	2.7	55.7	7.3
Moderates	.8	39.1	8.7
Nearly abstinent	.6	33.4	9.2
Abstinent	.3	23.6	13.3

	Percentage of those whose children required protection	*Percent of absenteeism from work*	*Steadily employed*	*Without property*
Treated drunkards Other hard drinkers	11.3	10.8	4.11	86.5
Less hard drinkers	3.9	6.9	6.0	78.6
Moderates	1.2	5.1	7.1	55.9
Nearly abstinent	.7	4.3	9.6	41.5
Abstinent	.15	3.1	9.6	35.6

		Criminality in Percent		
	On Poor Relief	*Large cities*	*Small cities*	*Country*
Drunkards handled, etc.	23.6%	48.1	35.9	28.2
Other hard drinkers		33.6	28.8	27.6
Less hard drinkers		18.7	12.3	13.3
Moderates	8.5	5.5	5.6	2.7
Nearly abstinent	10.4	4.2	2.3	1.9
Abstinent	5.3	2.5	1.7	1.

Note. Extracts from other Swedish manuals can be found in *Wet Science Invades the Schools,* pp. 116–126.

IX

THE TEACHING IN NORWAY

A Commission appointed by the Norwegian Government to consider the whole alcohol question, in its Report (1947), advised a great extension of antialcohol teaching,—

1. The establishment of an Alcohol Research Institute.
2. The further development of a fixed program on the subject in all continuation schools and normal schools for teachers, as well as in grade schools.
3. The introduction of the subject into all textbooks on social science.
4. The publication of a Guide on the subject for all army conscripts similar to that distributed to Swedish soldiers; also of literature for people's high schools, normal schools, housekeeping schools, stewards' schools, seamen's training schools, railway personnel training schools, and hotel personnel training schools.

There was more or less disagreement in the Commission on various points but entire agreement on the desirability of this action.

. . . . .

From Norway comes Emil Redse's *Handbok i Alkoholspörgsmaalet* (Handbook of the Alcohol Question) which "was worked out in agreement with the Normal Plan for the Common Schools." It has had medical supervision and deals with all phases of the subject.

Certain important Norwegian research is described as, for example, the memory experiments of Prof. Dr. R. Vogt, psychiatrist of the University of Norway. These were made under the following conditions. First, six days without alcohol. Next two, with 40 gr. daily (about the equivalent of a quart of beer); then four days with 60 gr. daily and six days with 80 gr. *The drink was not taken at once* but in small amounts through the day and, *before work at memorizing was begun, eight to ten alcoholfree night hours had elapsed.*

In the abstinent days, Dr. Vogt was able to commit to mem-

ory from a translation of the Odyssey, ever more lines in a given period because of practise. When he *began alcohol days,* progress stopped; during the first five alcohol days, accomplishment stood at standstill. After that it went down steadily.

Came three alcohol-free days again and capacity to learn increased until finally he was doing better than at any time. On the next day he drank 80 gr. through the day, the equivalent of two quarts of beer. As a consequence he could not reach a half part of the immediately preceding days.

In later experiments, carried on through many months, only 25 gr. was taken, hardly more than a pint of ordinary beer, *ten hours before memorizing.* On alcohol days it took, on an average, eighteen percent more time to memorize the same number of lines than on abstinent ones. After an interim of some weeks, Prof. Vogt returned to his Odyssey and found that it took longer to recover what he had earlier learned on alcohol days than that learned on abstinent ones.

These experiments are classical. Dr. Vogt was a pupil of Kraepelin.

Another Norwegian investigator, Dr. med. Johan Scharffenberg, examined 223 prisoners in the Bots Prison in Oslo to discover at what time in life they began to drink. The statement of results was,—9% before 15 years, 61% between 15 and 20, 21% between 20 and 25. In short *90% before 25 years of age.*

"It is known that the development of the brain is not complete before from 20 to 25 years. Also, that all nerve poisons are especially disastrous in their action while the organism is growing. Therefore it is greatly important to avoid alcohol in youth years."

Dr. Scharffenberg, an experienced psychiatrist, is supported in his opinion ("the special misfortune that befell these prisoners was that their brains suffered this way in early life") by the British neurologist, Dr. T. S. Clouston, who insists that it is indefensible to take alcoholic drink in any form before the close of the youth period, that is before the early twenties.

These 223 prisoners were interrogated as to what led them into drinking. Two said the father's example, four that they were given drink at home as children, ten that they carried beer to work-places for others and sampled it, thirty because of current

drinking customs, one hundred and fifty-three by the example of associates.

Less than eleven (out of 223) attributed their habit to "tensions" of any sort, such as unhappy marriage, loss of money, disappointment in love, etc. So little basis in fact, then, has a current American explanation of the origin of alcoholism.

This handbook states in model form the effects of alcohol on our perceptive faculties under the title of,

The Nervous System at Work

Under Normal Conditions *Under Alcohol Influence*

What happens to the nervous system when one takes alcohol? I do not speak of those who drink to intoxication. Everyone can see that their senses are entirely upset. But even small amounts can bring disturbances. Many scientists have made experiments which demonstrate this.

Here, for example, is a clock-work which draws a long paper strip past a hole in a wall. On this strip are printed a number of two syllable words. The hole is so small that only one word, or a part of a word, can be seen as it passes. The test is to read these words as they flash by. Attendants note each time if the word is spoken wrongly.

The tests lasted many weeks. On certain days those tested received 30 gr. of alcohol in solution, which corresponds to a bottle of beer. Every day new, two-syllabled words went rolling by the hole, always at the same rate of speed. Came the day for summing up the results. All thought that their best observation took place on the alcohol days and were greatly surprised to learn that, on an average, mistakes on the abstinent days were fourteen words, on alcohol days, twenty-nine, more than double, not to speak of an average of eleven words not observed at all on the alcohol days.

Later tests with more complicated words were made and the results were even worse on alcohol days. We may then write down,

1. Sight is disturbed; attention and comprehension lowered.

Now let us judge the effect of alcohol on hearing. A man is placed back of a curtain and out of sight. He lets balls fall

to the floor from various heights. Persons in front of the curtain interpret these sounds. The shorter the fall, the less sound. Height of fall is written down. The test is repeated over and over. Then some of the listeners are given a little alcohol: others none. In the alcohol listeners, hearing was at first a bit sharper. Was, then, the alcohol of some value after all?

The same tests were carried out with many balls of unequal weight in order to discover whether it was a light or heavy ball that had fallen. It turned out unfavorably for those who had taken alcohol. How explain this? The drinker's hearing is not so sharp to discern the strength of *different* sounds. He may perceive a light sound a little more easily but finds it more difficult to determine one sound from another. This should be noted for, in daily life, the important thing is not to hear a sound but to be able to decide what kind of a sound it is. This capacity is diminished by alcohol. Think of singing without being able to differentiate one sound from another. Would that bring harmony? We must then write on the blackboard,

2. Hearing becomes uncertain.

Some years ago on a dark evening, a steamer went aground in a west coast fjord and many persons perished. In the marine court the captain explained that he misunderstood the light in a light-house.

"Had he drunk any alcohol?" "Only a little beer. It was of no account." Closer investigation was made and it came out that the drink had affected his color sense. At a distance he could not distinguish one color from another; further that he had miscalculated the distance between ship and land.

. . . . .

"Tell me, Ola, you stood and cried yesterday at recess. Why was it?"

"I fell and hurt me."

"What was that to cry about?"

"Because it hurt."

"What told you that?"

"My sense nerves."

"Have you ever seen a man fall?" "Yes." "Did he complain?" "No." "Why not?" "Because it did not hurt him."

"That's strange." "No, it isn't. His sense nerves were paralyzed by alcohol. They were without feeling."

"Isn't it as dangerous for a drunk to fall as for others?"

"Of course, but it is only that he does not feel the pain."

3. *Under Ordinary Conditions* The brain takes impressions from the world about us through eyes, ears, nose, mouth and skin.	3. *Under Alcohol Influence* Powers of sense are upset. Capacity for observation and comprehension lowered. Hearing is uncertain, color sense and taste and feeling nerves are weakened.

"I saw some boys recently pulling up their sleeves and examining each others' arms. What were they comparing?" "Muscles and muscle strength." "Was it a question of one muscle only?" "No, of many; perhaps of all."

"What muscles does our postman use most?" "Those in his legs." "And fishermen?" "Arms and back muscles." "And athletes?" "They use all their muscles."

"Who commands the muscles?" "The brain."

"If things are to go well, the brain must get all of its subjects to work together."

"You have seen a drunken man. How does he move?"

"He staggers." "What's the matter with him?" "His leg muscles do not work together." "Is it the muscles that are paralyzed?"

"No, it's the nerves that carry the message to the muscles." "What becomes of work when both the workmen and the boss are paralyzed?" "It goes to pieces."

"What type of work suffers most when one drinks?" "That which is directed by the highest and finest brain cells." "What is such work called?" "Precision work." "Can you give examples?" "Typesetting, typewriting, sport contests, intellectual work, etc." "How does it go with heavy work?" "Routine labor, which one can do without straining either brain or nerves, suffers least from alcohol."

Write on the blackboard,

4. The brain directs the muscles.	4. An alcoholised brain is unable to direct muscles. An intoxicated man staggers.

Alcohol and Work Do Not Go Together

"How does a man with alcohol in his brain think?" "Badly, at any rate worse than usual." "How does his memory work?" "It is impaired." "You have home lessons, now and then. Have you ever complained because they were too easy to learn?" "No." "Have you ever heard complaints because they were too long and too hard?" "Yes, often."

"Does it then seem in reason to do something foolish with the brain, which makes its work more difficult? Is it reasonable for a man to oil his brain with alcohol so that it takes longer time and does worse work than usual? Men in such condition frequently do their work so poorly that it has to be done all over again.

"Why do you oil your bicycles?" "To make them go better." "But if you had oiled it with something which made the wheels harder to turn? Supposing you had smeared the chain and bearings with sticky stuff which attracted dirt and sand?" "I certainly would be dumb."

"Alcohol in the brain works as sand in ball bearings. Look at this chart on alcohol and memory. It shows that one cannot learn as much after drinking."

5. The brain thinks and remembers.	5. Brain work under alcohol influence becomes worse, more inaccurate. Memory is weakened. A man is less reliable.

. . . . .

The Fourth Section has to do with alcohol and conduct and is admirable in its moral guidance. The summary for the blackboard runs as follows:

6. The brain controls thoughts, words and actions. We should then, a. Keep quiet at the right time. b. Do or say nothing unseemly. c. Be on watch against dangers. d. Direct our actions according to law and order.	6. Alcohol paralyses the brain cells —the finest and highest first. Self-control is weakened. One thinks too much of one's self. The modest become talkative. The lower instincts take control. Talk often becomes improper. One becomes careless, overbold, cannot handle one's self. Quarrels and violence are a consequence and these can lead to police intervention and to prison.

X

FINLAND'S SCHOOLS FOR ALCOHOL ABSTINENCE

Finland stands in the hostile shadow of Russia and is quite conscious of it. Its advanced antialcohol orientation is a part of national defence, which involves the creation of a vigorous people. One is not, therefore, surprised to find great emphasis laid on this subject in the nation's schools. The teaching is radical. School books bear such titles as *The Abstinence Book* (*Raittiuskirja*) and *The Subject of Abstinence* (*Raittiusasian Oppijirja*).

In the most recent text, Kaarina Kari's *Society and Alcoholic Drink* (*Yhteiskunta Ja Vakijuomat*), 1951, accounts are given of two series of experiments which have come out of the University of Finland at Helsinki. Both are classical.

Prof. Tötterman's experiment was on alcohol and precision work. The test consisted in threading needles. This he did twenty minutes every day for two weeks, beginning work at 10 A. M.

On the night of the fourteenth day, at 11 P. M., he drank 25 gr. of alcohol (equivalent to a little more than two bottles of light beer). The next day at ten A. M., that is *eleven hours after drinking this small amount,* he began threading needles again in a twenty minute period. He continued this light alcohol regimen for ten days.

Followed nine days without alcohol. On the evening of the ninth he again took the same amount of alcohol as previously and continued doing so through ten days.

When we compare results of the last ten alcohol days with the nine days preceding them, we find that on abstinent days he was able to thread 179 needles in twenty minutes; on the alcohol days, 162, a loss in efficiency of six percent on alcohol days.

Mark that Prof. Tötterman first got himself into practise by fourteen days of threading. Further that *he did not begin work until eleven hours had passed after drinking.* In that time all alcohol had been oxidised and was out of the blood. The time had

been spent in sleep. In spite of these favorable conditions, this relatively small amount of alcohol had caused a reduction in accomplishment of six percent.

These experiments, lasting 43 days, gave the following results:

1. The alcohol-free accomplishment rose from 103 to 189 needles threaded a day.
2. Accomplishment fell on the first ten alcohol days to 164 needles.
3. It rose again in nine days without alcohol to 191 needles.
4. At the close of ten more alcohol days, only 149 needles had been threaded.

The experiments of Hellstén, also of the University of Helsingfors, can be briefly summarised. Hellstén was an experienced athlete and investigator. He lifted heavy weights (90 kilo, about 150 lbs.) every second second until exhausted, for specified periods, during two months,—two weeks with alcohol and two without, alternately. When the alcohol was taken immediately before the test, there was an initial improvement, followed after a half hour by deterioration, a sequence which reminds one of the doping of race horses.

But the entire amount of weight lifted in the alcohol periods was 16% less than in the abstinent periods,—viz. 5,001 kilograms with alcohol, as against 5,967 without it.

The same tests were taken with and without sugar,—100 grams. As against a normal test showing 100%, tests on alcohol days gave only 84%; on sugar days, 117%. This was a total difference in favor of sugar of 33%, which demonstrates that sugar, not alcohol, is muscle food.

. . . . .

School temperance instruction in Finland is closed each year with competitive temperance examinations. To take part, the pupil must first study those special phases of the subject chosen for the competition. The subjects vary with the pupil's age. Preparation booklets are issued for the different grades, those for the highest containing twelve to sixteen pages; for the lowest, eight pages. All are illustrated. This competition takes place on the same day throughout the country. In it participate 250,000 children in lower grades and 50,000 in high schools. Professional

schools, too, must take examinations, naturally with more advanced material.

Temperance instruction in the schools is subject to occasional revisions, presumably to keep it abreast of current scientific research. In addition and outside the schools' immediate program are continuation courses for adults which use, as their text, Mr. Karpio's books above mentioned.

I ran across in *Polstjärnen,* years ago, this picture of the national examination:

"When, at four o'clock, I reached the High School, I found eighteen boys and girls ready to start in. Questions are given out and writing begins. I sit and look on. Almost all the boys are dressed in gray homespun and wear high-peaked boots. In the first row I notice a little fellow with milk-white skin, flaxen hair, and eyes like corn flowers. He writes slowly, with big round letters, tongue following. The girl is among the first to hand in her paper. The examination closes. The papers are put in portfolio to be handed to the general school committee in Helsingfors.

"The public meeting begins. The school is packed with young people. On the front seats are the little girls, snub noses in air. Stature rises until it reaches the oldest high school boys with incipient moustaches. It is not easy always to find the right word for so diverse an audience but the assemblage is an indulgent one. There are music and stereopticon slides, followed by further remarks. A hearty song by all and the meeting closes. The skis, which stood in long rows against the school-house wall, are laid on the snow and the home-spun figures vanish into the winter darkness."

Finland's alcohol consumption is the lowest in Europe. Temperance teaching undoubtedly largely helps to explain why.

Gaylord
PAMPHLET BINDER
Syracuse, N. Y.
Stockton, Calif.